AMERICAN ARTISAN and Hardware Record

VOL. 74. No. 1. CHICAGO, JULY 7, 1917. $2.00 Per Year.

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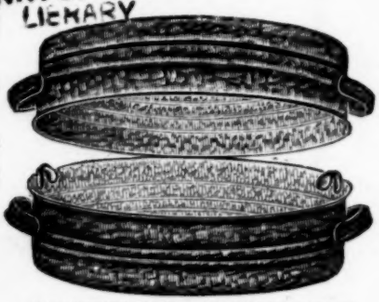
"AGATE" NICKEL-STEEL WARE



"AGATE" SELF-BASTING ROASTER

This Trade Mark is BURNT IN the enamel on each piece.

"AGATE" LIPPED KETTLE

"AGATE" NICKEL-STEEL WARE

is very handsome in appearance, being **DOUBLE** coated with a hard and glassy enamel, giving it a smooth, highly polished surface. The purity of the materials used in its composition, the excellency of the workmanship, together with the finish and numerous designs and shapes are what have brought **"AGATE" NICKEL-STEEL WARE** to the top.

"AGATE" NICKEL-STEEL WARE is strong and durable, yet light and convenient to handle.

"AGATE" SEAMLESS KETTLE

"AGATE" NICKEL-STEEL WARE

will not rust, break or solve.

"AGATE" NICKEL-STEEL WARE is guaranteed absolutely pure and safe to use for all kinds of culinary work. Altogether it is the cleanest, most durable and best ware for family use ever put on the market.

"AGATE" NICKEL-STEEL WARE has been the standard for forty years. Do **you** realize the advantage in serving your customers with the best, Mr. Dealer?

Investigate our proposition ***today.*** Understand why **"AGATE" NICKEL-STEEL WARE** leads the field. Know more about why **"AGATE" NICKEL-STEEL WARE** is ***easy*** to sell. Our catalog has illustrations and descriptions of practically every article in the culinary and kindred lines. Be prepared to serve ***your*** customers the ***best.***

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LALANCE & GROSJEAN MFG. CO.

1900 South Clark Street, CHICAGO, ILLINOIS

NEW YORK **BOSTON**

ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS, 50 and 51.

FRONT RANK Steel Furnace

TRADE NAME REGISTERED

plus FRONT RANK Service afford the live Dealer the most attractive Furnace Proposition on the market today.

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We Help FRONT RANK Dealers

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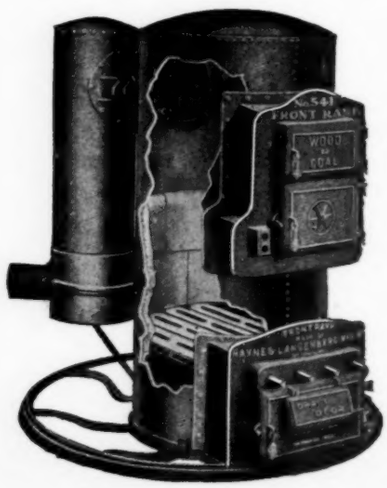
Don't you want to join the FRONT RANK Club? Write us for particulars.



Good bye! We're going home FRONT RANK is too hot for us.

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Haynes-Langenberg Manufacturing Co.

4058 Forest Park Blvd.
St. Louis, Mo.

ESTABLISHED 1880
Representative of
The Stove Tin Hardware
Heating and Ventilating Interests
PUBLISHED EVERY SATURDAY

AMERICAN ARTISAN and Hardware Record

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CHEERFULNESS IN the conduct of your business will make and hold trade for you. The employment of good natured people, who are cheerful and who smile easily and often, is a move for more and better business in any line.

Cheerfulness Will Win Trade.

Take stock of yourself and of those who surround you and see how they act and look. Every man who comes in contact in any way with a customer of your house should always be good natured and cheerful.

They should start the day that way.

A cheery smiling "Good Morning" to everyone in your employ does not cost a great deal more than the effort and will pay handsomely in instilling the same good feeling into every member of your working force.

The man who feels he is always under a burden of trouble and has a long tale of woe to tell the other employees, who feels he is to be pitied and is continually sorry for himself, is not a fit person to meet the trade. Get rid of him and in his place employ a smiling, good natured person who will win and hold friends.

Customers do not want to be smirked on, or to be patronized. They will not tolerate it long. What they do want is pleasant comfortable service, no matter what they buy.

The clerk who tries to sell the customer an expensive article and when the customer indicates a preference for a cheaper make, shows his disappointment and indifference, is not the clerk who will go ahead.

Be cheerful no matter what the sale is you are making, whether it is to some fidgity old lady who really does not know what she wants or to the richest person in your community.

It isn't enough to be courteous to ninety-nine customers and pert to the one hundredth. It won't do to be cheerful fifty-eight minutes of the hour and disgruntled the other two. It is not sufficient for all of the employees to be pleasant and have the manager spoil it all by a fit of temper.

Greet every customer who enters the store pleasantly, call them by name if you know it and show them, by your very actions, you are proud and happy to be employed in waiting on them. There is nothing which will please prospective customers more than cheerfulness. It makes them feel at home, and if they are timid or do not know exactly what they want, as is often the case, it puts them at their ease at once and they will go out of their way later to trade with you.

Carry this air of cheerful service into all your work, either with the outside public or your fellow employees and you will be surprised to see how short the day is and how much real good you can accomplish.

These sound like little things but they have an important bearing on the workings of yourself and your force and you cannot afford to overlook them for a moment.

Remember the first principal of courtesy is to keep cool, the second is to keep sweet, and the time to be tactful is all the time.

A PUBLICATION such as AMERICAN ARTISAN AND HARDWARE RECORD benefits its readers by printing news of present interest, but mainly by showing ideas which may be used to advantage in the conduct of the dealer's business.

Interchanging Ideas.

The progressive dealer is himself the most fruitful source of business-making ideas, and that man is most successful who besides introducing new schemes, is capable of using the ideas of others to his own benefit. AMERICAN ARTISAN AND HARDWARE RECORD has always had its columns open for the exchange of practical ideas and plans regarding any detail of the stove, hardware, warm air heating and ventilating and sheet metal interests. Hence if you have a salesroom of which you are proud or an attractive window or interior display, send us the photographs and descriptions, and they will be used with due credit to you.

If you have any particular sales or advertising plan which has been a business builder, if there is anything in the way you handle accounts which is unusual and profitable—in short, if you are doing anything in your business which would be of interest to other merchants, why not pass the good word along? Send us samples of your advertising matter and information regarding sales and credit methods, and we will be pleased to help you interchange ideas and methods in every way possible.

HOW MUCH of your profits are you throwing away every sale you make?

Are You Throwing Away Profits?

No doubt on the spur of the moment you will seem surprised at such a question and solemnly assert you are not throwing any away.

Maybe you are not, knowingly, but nevertheless, unless you are keeping a constant eye on the market conditions, you are losing money every sale you make, on many important items in your store.

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This you may also assert is impossible, but stop for a moment and think of what you paid for the goods when you ordered them, what they cost you to get into your store, to get into the customer's hands, and most important of all—*what will it cost you to replace them at current market prices.*

That is the all-important kernel of the situation. You may be selling at what you think, and what really is, a profit over the cost of the goods to you but don't you realize you are entitled to the profit that will accrue to you were you to go in the market today and replace them?

Don't you realize the day is coming, maybe not for some time, but it will come, when you will have to revise your prices downward and when you do, the fact you bought at the top price will not be a bit of interest to your customers and the trade in general? What you should do and are doing if you are a real live merchant, is keeping active interest in every movement of the market and as soon as there is an upward tendency, rearrange your selling prices accordingly. That is the only way in which you can keep even with the game and be in a position, when the time comes, to buy new goods at the then current market without loss.

Personal Service a Vital Factor.

A WELL equipped store, well managed and cared for, is of course an important element in successful merchandising, but even with all this what is of vastly more importance is service. Not foolish wasteful service but helpful service which makes for your store real friends of the consumer.

You can never tell by the appearance of a person entering your store, what the ultimate sales may be to him, nor how a little helpful consideration, even of a very small order, will lead to a big order later.

An illustration was given of this recently in Chicago, when a layman at the request of a friend started to buy some odd sized wrenches.

Several hardware stores were visited but aside from the scant declaration that they did not have the desired tools in stock, no attention was paid the prospective customer.

Disgusted, the man was about to give up the quest and was waiting for his car to go home, when he saw another store on State Street. He decided to make one more effort and positive as he was to be disappointed before he even entered the store, he timidly asked a clerk for what he wished.

Here again the tools were not carried in stock but the clerk, even though the place was crowded with customers, went out of his way to locate where they could be secured. He then took the customer's name and address, promising to send them on arrival.

In less than three days the wrenches were delivered at the man's home although the charge was less than a dollar.

This seems like a small matter but the tools were bought for a young mechanic who is some day going to be a contractor. The man who did the buying is contemplating the erection of a home, where a great deal of hardware will be needed and incidentally he is also a walking advertisement for this particular clerk and store. So you see, while the original sale did not amount to a dollar, in prospective business it means the sale of hundreds of dollars worth of hardware and you can be sure, all that is possible will be bought from this firm.

This was service in its highest form and is of the sort that leads to the building up of substantial business. We never can tell the after effects of courtesy to every man, woman and child whom we meet either in a business or social way.

Brains Vital Part of All Goods.

ALL GOODS are like the constitution, without brains, they would lack what is most needed—durable merit. Brains supply what material cannot furnish. For instance the dictionary contains more words than the average man will ever need. Brains put them together and secured sense from them. Brains operate the same way with material and tools. It is the brain power which determines the values.

Your tools cannot think, they are simply vehicles of the brain. Of course the excellence of the equipment of any line aids the brains but it is knowledge and the skill of the workman which decides the results.

For centuries the world has produced men who were wise and otherwise; the slacker, ne'er-do-well can never be a great statesman, and a shiftless, lazy man on the pay-roll will not produce good work. Workmen with brains are as important in their line as are the executives or the diplomats of a great nation. Without them, no concern could hope for success.

It is brains which mine the iron and convert its value from say $20.00 per ton in the shape of ore to $5,000.00 a ton in the shape of steel tools. When you buy materials you buy more, you buy the brains which made possible the materials. Judge your goods by the brains behind them, for it is workmanship which delivers the greatest service.

A decade of thoughtless effort was squandered, together with a half billion dollars, by the French effort to build the Panama Canal. It was brains, American brains, which gave us a better canal in ten years at less cost. Brains put quality into all results of capable workmen.

In 5000 B. C. the world had everything it possesses today—except brain power. It was brains which have placed us where we are today taking humanity from zero to 100 percent. Everything you buy is worthy only according to the brains it contains.

All the material which enters the construction of the telephone, telegraph, airship, submarine and everything else has been in the world since its conception but was useless till brains got on the job and placed it together in such a way as to be effective.

Brains have made all things possible and without them, we would still be living in the wilderness of ignorance.

Without brains the finest materials in the world would fail in their purpose. Without brains nothing could be accomplished.

Two artists may use the same materials, the same canvas and paint the same picture, one produces a

daub and the other a masterpiece. One uses brains and the other did not.

Brains in workmanship is what can make every article a masterpiece.

Are you using all the brains you can in your life's work?

RANDOM NOTES AND SKETCHES.

BY SIDNEY ARNOLD

"What fools these mortals be," said *Puck*, one of Shakespeare's immortals. And don't you think *Puck* was about right, at least from his point of view?

Lift yourselves above the throng and out of the hurly-burly for a moment, take a hurried glance at your own narrow world, and then say whether *Puck* was right or wrong.

You can lift yourself out of the throng and above the hurly-burly by making an earnest, unselfish effort to do so—unselfish, remember, for the least bit of selfishness will weight you down as though it were a millstone about your neck.

It is selfishness that keeps man so close to the ground. It compels him to grovel and cringe, and to grumble and complain, and to curse and swear.

All of these, together with most of the ills to which man lays claim, belong to selfishness as children belong to a mother.

Discontent is the leader of the brood, and is to be found almost everywhere. It is forever grumbling and complaining, and refuses to be satisfied, no matter how freely riches and honors and favors are bestowed.

* * *

E. P. Dunning, who looks after the Western interests for Sargent and Company, was waiting for an appointment at the Hardware Club in Chicago the other afternoon and one of the member's wives had just entered the elevator with her daughter, a very handsome little miss. Someone made a remark about the attractiveness of the young one, when Mr. Dunning told this story:

Little Berryl, aged about ten, was no doubt a very pretty and intelligent youngster, but she had one fault—she was vain. At every available opportunity she would gaze at herself complacently in the looking glass. Her fond papa noticed the habit and took it upon himself to correct it.

"Why do you always look in the glass?" he asked.

"I was just thinking how nice I looked," answered Berryl.

"You mustn't be so vain, child," said papa. "Remember, we are all as nature made us."

"Did nature make you, papa?" asked Berryl.

"Yes."

"Then," said Berryl, looking at him and then at her reflection in the mirror, "don't you think nature is turning out better work than she used to?"

* * *

William T. Gormley dropped in to see me on Monday while stopping over in Chicago on his first trip as representative of the Miller Lock Company of Philadelphia. "Bill" is looking hale and hearty, as jovial and as cheerful as ever. When I wasn't looking he grabbed the opportunity to make me chuckle at the following story:

A keen temperance advocate was addressing a meeting on his pet subject. "I should like," he declared, "to take every bottle of wine and every bottle of beer and every bottle of spirits and sink them all to the bottom of the sea."

A man at the back of the hall jumped up excitedly, shouting: "Hear, hear! Hear, hear!"

The lecturer paused in his remarks to beam delighted approval on the interrupter. "Ah, my friend," he said, "I see you are a good teetotaller, a man made of the right stuff."

"Oh, no," said the man; "I'm a diver."

* * *

Allan J. Coleman has gotten nicely settled in his new office on the corner of Lake Street and Wabash Avenue and when a couple of his friends entered his sanctorum the other day, they found Allan bursting his sides with laughter. When asked for an explanation, he replied that Mrs. Coleman had just called him on the phone to tell him a story she had heard at a card party she was attending and this is the story:

He had but recently met an elderly maiden lady in a near-by town. On his return home he wrote, asking her to marry him and requesting an answer by telegraph. On receiving the letter the lady rushed to the telegraph office.

"How much does it cost to send a telegram?" she demanded.

"Twenty-five cents for ten words," answered the operator; and this was the telegram her suitor received:

Yes, Yes, Yes, Yes, Yes, Yes, Yes, Yes, Yes, Yes.

* * *

There are two ways of considering the war. One is the panic-stricken, hysterical way which spells only irreparable harm and loss, making the war's toll so much greater, and its grief so much more poignant. The other way is the philosophical, the optimistic viewpoint which allows us to see matters in the proper light and it devolves upon all of us to become thoroughly imbued with the splendid philosophy outlined in the following bit of verse by Folger McKinsey:

If It Must Come.

If it must come—
Lord, give us strength to bear
Its red, red wrath, its sacrifice and woe,
Its service and its loyalty and care,
Its bitter blight and blow.

If it must come—
Lord, let us waver not
Before the gun-fire or the giving up
Of little pleasures, that must be forgot
In this high moment when the bitter cup
Of life and struggle shall approach our lips,
When dreams must wait, and all our petty trials
Sink for the moment into dark eclipse,
While the brave spirit smiles.

If it must come—
Lord, let us meet its call
With stalwart manhood as our fathers did
Who heard the echoes of the bugles fall
Around the world, and took their places amid
The foremost carnage of the bitter years,
Glad in their service to be men who knew
That even in battle and the salt of tears
'Tis something to be true.

UP TO THE MINUTE NEWS SIFTINGS

The Sunray Stove Company, Delaware, Ohio, has increased its capital stock from $50,000 to $75,000.

The Co-operative Stove Company, Bloomington, Illinois, has changed its name to the Illinois Stove and Furnace Company.

The Geminden Manufacturing Company, Indianapolis, Indiana, has been incorporated with $50,000 capital stock to manufacture water heaters and cookers. Frank Geminden, Frank Keil and Roy L. Kay are the directors of the Company.

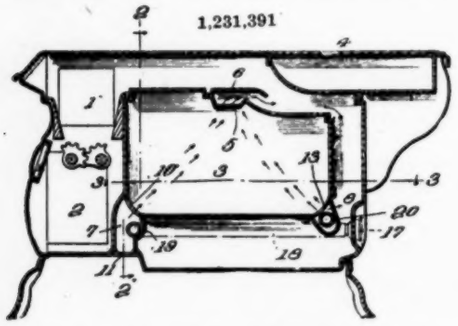
PENNSYLVANIA STOVE SALESMEN HOLD LAST MEETING OF SEASON.

The year's activities of the Stove Salesmen's Association of Pennsylvania were rounded up in good fashion at the final meeting of the season held on Friday evening, June 29th, at Hotel Walton, Philadelphia. The members are planning to commence the season in October with a meeting featured by an exceptionally interesting address on salesmanship.

COMBINATION COAL AND GAS RANGE PATENTED.

Under number 1,231,391, United States patent rights have been granted to Max R. Lehman, Quincy, Illinois, assignor to the Quincy Pattern Company, Quincy, Illinois, for a combination coal and gas range described in the following:

A combined solid fuel and gas burning stove having an oven therein, provided with the usual flues, said oven having vents communicating with the top flue thereof, burner chambers arranged below said oven and communicating therewith



along two of its sides and front thereof, and a burner arranged within the front burner chamber having branches extending into side burner chambers, said burner chambers having air inlets.

WHO MAKES NUMBER 4 RUBY LAUNDRY STOVE?

To American Artisan and Hardware Record:

Can you tell us who makes the Number 4 Ruby Laundry Stove?

Subscriber.

Milwaukee, Wisconsin, July 3, 1917.

STOVE TRADE IN SWEDEN.

The latest available figures for Swedish import and export of stoves are given in a current commerce report. They are for 1914 and give the total import of stoves as 99,338 kilos, or a total of 99 tons, of which 67½ tons came from Germany. For the same year the exports of stoves amounted to 376 tons, distributed as follows: Thirty-five tons to Norway, 47 tons to Russia, 205 tons to British South Africa, and 89 tons to other countries.

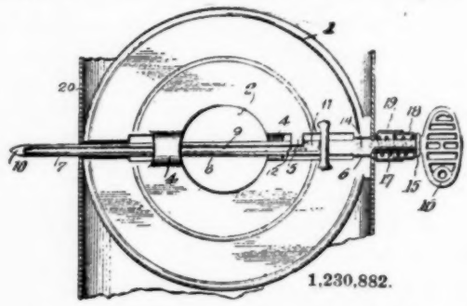
Sweden depends chiefly upon wood for fuel. It has a rigorous climate and the economical use of fuel becomes a question of much importance. Wood is just now coming in large quantities to the city in sailing boats, and unloaded in the center of the city. The cost to consumers is $15 to $18 per cord.

The advertising matter of Swedish-made stoves presents types somewhat similar to the American heating stove and ordinary cooking stove and range. A list of the more important stove dealers in Stockholm can be obtained at the Bureau of Foreign and Domestic Commerce or its district or co-operative offices. Reference should be made to file number 89348.

SECURES PATENT FOR DAMPER.

John W. Filbey, Wrightsville, Pennsylvania, assignor to the Wrightsville Hardware Company, Wrightsville, Pennsylvania, has secured United States patent rights, under number 1,230,882, for a damper described in the following:

In a damper for stove pipes and the like, a damper plate provided with a minimum draft opening in substantially the center thereof and having a passageway for a suitable pivot rod, said passageway comprising oppositely disposed arches adapted to extend on opposite sides of a suitable pivot rod, a projection comprising a relatively flat member extending from the damper plate into said passageway in substantially the



same plane as the said damper plate, an interlocking member formed in one end of said passageway and comprising a squared recess, in combination with a pivot rod having a pointed end and being provided with a groove extending longitudinally of said pivot rod, a squared portion on said pivot rod adapted to fit into and interlock with the interlocking recess on the damper plate, a stop adjacent said squared portion and constructed to cooperate with said projection, and a spring for normally retaining said squared portion within said interlocking recess and said stop in engagement with said projection.

Salesmanship is getting folks to buy quality goods.

THE EVOLUTION OF COOKING AND HEATING

By H. H. MANCHESTER, A. B.

The everyday things of life often have the oldest and most interesting histories. Ranked by its length of ancestry, the kitchen would be far more aristocratic than the parlor, and few things have had a more striking evolution. So says H. H. Manchester, A. B., in commencing his wonderfully interesting article on the "Evolution of Cooking and Heating" which is copyrighted by the Fuller and Warren Company, Troy, New York, and was recently distributed by them in booklet form. Supplemented by a host of illustrations picturing the ancient, the mediaeval and modern methods of cooking and heating, this booklet is undoubtedly one of the most interesting and absorbing ever published on the subject, and a portion of its contents are reproduced herewith. The remaining section will be published in an early issue. The Company will cheerfully send copies of the booklet upon request, and also details of their stoves, ranges and warm air heaters which so commendably typify the modern apparatus for cooking and heating outlined in the booklet.

In the Glacial Age.

Cooking and heating go back at least to the Glacial Age, probably fifty thousand years ago. In the caves of Altamira and La Madeleine, on the border of France and Spain, have been found the partially burned bones of the mammoth and European bison, while pictures of such extinct animals on the walls prove the presence and instrumentality of man.

The fire of that age was merely an open one. Meat was roasted on spits over the embers. Boiling was accomplished by filling a hollow in the rock with water, which was heated by throwing hot stones into it. Possibly they also used vessels scooped out of sandstone, a few of which have been preserved.

Types of Cooking Equipment in Ancient Egypt.

The first exact evidence in regard to equipment for cooking, dates from Egypt and the dawn of history about 6,000 years ago.

Among the wall paintings of the rock tombs, in which the ancient Egyptians portrayed almost every aspect of life along the Nile from 4000 B. C. to 1000 B. C., there are a number illustrating the preparation of meals.

The earliest and most primitive of these are representations from the Fourth Dynasty, about 3500 B. C., of shepherds broiling on spits and baking cakes in the ashes.

Boiling in kettles is not represented in such early pictures, but as pottery goes back to prehistoric times, undoubtedly this method of cooking was also employed.

By the time of the Eighteenth Dynasty, about 1600 B. C., the kitchen had become a department of great importance, as proved by large paintings showing the details of the royal bakery and kitchen of Rameses III. These portray boiling in pots, frying on a griddle, and baking on the outside of a cylindrical oven.

Thus even as early as ancient Egypt we find at least six different methods and types of equipment made use of in cooking.

The Egyptian bill of fare was varied, although lacking many things which we should now consider essential but were unknown until many centuries later.

The favorite soup was made from lentils; the principal meats were beef and goose, but those of the ibex, gazelle and kid were occasionally served. Mutton was hardly eaten at all. Fish and birds were even then salted down.

The Egyptians were said to have adored cabbage, and made great use of onions, cucumbers, melons, figs and dates. A king's offering in his tomb included fifteen kinds of meat, sixteen of bread and cake, ten of wine and beer and eleven of fruit.

The guests dined seated, while servants passed around the viands. They used knives for carving, but not at the table, and had no table forks or chop sticks. They employed spoons for liquids, but handled solid food with their fingers.

One rather pretty custom was that of supplying each guest with flowers, partly for the sake of the perfume.

The climate of Egypt made the heating of the habitation of minor importance. Occasionally pots of charcoal were set in a room on a chilly night, or the family slept around the oven, which would radiate some heat even after the fire in it had died down.

In neither cooking nor heating was there any provision made to avoid the smoke. There were no chimneys, and, if the fire were inside the room, the smoke was left to find its way as best it could out of the door, window, or hole in the roof. The result was a great waste of fuel, which was already scarce in Egypt, and various diseases of the lungs and eyes.

Among the Hebrews.

Among the Jews as well as among the Egyptians, lentils were a great dish, for Esau sold his birthright for a pottage of the red variety. The art of cooking must, however, have been progressing, for Rebekah prepared kid so that it would taste like venison and fooled blind Isaac in order to get his benediction on Jacob.

The Jews, while in the wilderness, longed for the flesh pots of Egypt. They remembered the fish which they "did eat in Egypt freely: the cucumbers, and the melons, and the leeks, and the onions, and the garlic."

The Jewish law considered not only the hog unclean, as is well known, but also the hare and such shellfish as the oyster.

Assyrian Cooking and Heating.

Of all the Babylonian and Assyrian bas-reliefs thus far discovered, there seem to be only two showing cooking, both of which are small details of a large

picture of camp life about 750 B. C. One delineates a man cooking something over a small brazier, the other portrays a baker puting his dough into a little cylindrical oven.

Boiling in pots and broiling on spits over the fire, while not depicted, were methods also in use.

In ancient times, a room in Mesopotamia was heated by means of a little brazier or pot filled with charcoal. Later, such a pot was buried even with the floor, the top covered and a rug spread over it. Under this rug the family would crawl for the night to get the benefit of the heat, in spite of the dangerous gases which unavoidably rose from the charcoal.

In Homer's time the meat was roasted over the fire as at an old fashioned barbecue today. Homer tells how Ulysses kindled the fire, Achilles turned the spit, and Patroclus drew the wine.

The vegetables were probably boiled in pots to make a soup or stew.

The black soup of early Sparta was notorious. The cook said to the Tyrant Dionysius that it needed the seasoning of fatigue and hunger. A native of Sybaris said of it, "No wonder you Spartans scorn death, for any sane man would rather die than live on such food."

Professional cooks had been developed before the time of Pericles. One of their triumphs was a whole pig roasted on one side, boiled on the other, and stuffed with birds, eggs, and pungently seasoned dressing. Nero of Corinth was said to prepare Conger eels into a dish fit for Zeus himself.

An indication of the early methods of heating in Greece is given in the Odyssey, book XIX, where Penelope's maids are described as throwing the embers out of the braziers upon the floor, and heaping fresh wood upon them.

In the classical period, charcoal was used for fuel, and gum, spices, or bitumen burned to add a pleasanter odor to the smoke.

At Rome.

The early Romans were abstemious, a consul sometimes dining on a single roasted turnip. But even before the end of the Republic, luxuries of every sort mere imported at enormous expense from the East, which led Cato, the censor, to exclaim, "How can you save a city in which a fish sells for more than an ox!"

Julius Cæsar is said to have spent the revenues of several provinces on a single meal. Nero squandered from $240,000 to $400,000 on each of several banquets. Apricius expended $4,000,000 on dinners and then killed himself because he had only $400,000 left.

The dinner courses were as amazing as their cost suggests. Vitellius ate 1,000 oysters at a sitting. At a dinner given him by his brother, there were 2,000 different dishes, a detail of which included 7,000 fat birds. Domitian convoked the senate to discuss how a big turbot should be cooked. Heliogabalus served the brains of 600 ostriches at a meal, and considered camel's feet the greatest of delicacies.

The Romans imported the peacock from Samos, the turkey from Phrygia, cranes from Melos, the mullet and oysters from Tartery, and crabs from Chios. They brought asparagus and sweet cherries from Asia Minor. Among other vegetables were onions, truffles and mushrooms. The seasoning was sometimes more strong than appetizing, even nitrum and asafetida being used.

Banqueting customs were in great contrast to those at present. After being bathed and carefully barbered, the guests threw off their togas, put on soft dinner robes, removed their sandals so that their feet were bare, and reclined on couches while they ate.

The names of the dishes were called out by "nomenclatores." There were no forks, in lieu of which the guests used their fingers. The assemblage was often amused by acrobats and even gladiatorial contests.

The cooking was done over braziers, or on grills, which were often set upon stone hearths. One of these hearths found at Pompeii had a top arranged to hold live coals, and a space underneath which seems to have been used for the storage of fuel. Thus the stone hearth was practically an immovable brazier.

The kitchen had no chimney, and in even the great establishments the smoke had to filter out of whatever openings there were. In fact, the sycophants of the period, who chased from one house to another wherever they thought they stood the best chance of getting a meal, used to judge of the prospective feast by the amount of smoke pouring out of the roof.

Although not applied to the kitchen, chimneys had by this time been invented. The ruins are still standing of one which was erected in a bake shop in Pompeii, and Strabo also mentions that they were used in smelting.

Cooking in the Middle Ages.

The miniature pictures and manuscripts of the Middle Ages indicate that the two most common methods of cooking employed during that period were broiling and boiling.

There were several devices employed for turning the spits. Some of these made use of a fan which was revolved by the rising smoke. In others a dog was kept at work in a revolving treadmill.

The prevailing characteristics of the food were the crude fare of the peasants and the rather barbaric abundance among the nobility.

The principal Anglo-Saxon vegetable was kale wort, a kind of cabbage, which was helped out with beans, peas and onions.

In France at the time of Charlemagne, cresses, lettuce, beets, parsnips, carrots, and radishes were known, but they did not find their way into England until much later. Sugar first came from the East during the Crusades.

The Normans were greater epicures than the Saxons. Several of their ceremonial dishes were famous. The peacock, for example, was skinned, then roasted, and the skin sewed on again. The comb was gilded, the tail feathers spread out, and the bird served to the accompaniment of music from the minstrels.

At the time of the discovery of America, the Indians had only the crudest methods of cooking. Two pictures made by John White in 1590, show the apparatus employed by the Indians for broiling and boiling twenty-seven years before the settlement of Jamestown. Boiling was also done in the prehistoric style by throwing hot stones into hollows in the rocks which had been filled with water.

THE WEEK'S HARDWARE RECORD

Of Interest to Manufacturer, Jobber and Retailer

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 44 to 49 inclusive.

The Mohr-Jones Hardware Company, Racine, Wisconsin, has increased its capital from $60,000 to $150,000.

The McRae Wholesale Hardware Company, Helena, Arkansas, has increased its capital from $50,000 to $100,000.

The DuPont Powder Company, Barkdale, Wisconsin, will erect a new finishing plant adjacent to its present buildings. F. T. Beers is general superintendent.

The Smith-Hall Hardware Company, Brownwood, Texas, has changed its name to the Austin-Hall Hardware Company and increased its capital from $25,000 to $75,000.

The Spencer Screw Company, Springfield, Massachusetts, has been incorporated with a capital stock of $10,000 by A. M. Spencer, George C. Robert and J. B. Beauvais.

The Sheldon Hardware Company, Janesville, Wisconsin, has been incorporated with a capital stock of $40,000 by Frederick S. Sheldon, Owen B. Skavlem and Charles H. Billings.

J. Mooers, W. D. Thompson and P. J. Meyers have organized the Racine Hack Saw Company, Racine, Wisconsin, which has been incorporated with $10,000 capital stock to manufacture hand and power hack saws and similar devices.

The General Machine and Tool Company, Jackson, Michigan, has been incorporated with a capital stock of $24,000 to engage in the manufacture of machinery and tools. The incorporators are Louis Paul, P. W. Rogers, J. W. Myers, and others.

The Trelectric Manufacturing Company, Cleveland, Ohio, has been organized with a capital stock of $25,000 to manufacture electrical appliances. William C. Tregonning, J. A. Boyden, W. K. Stanley, Fred J. Young and H. N. Pettibone are the incorporators.

The Tuck Manufacturing Company, Brockton, Massachusetts, has been incorporated with a capital stock of $20,000 to manufacture tools, springs and hardware specialties. The incorporators are Lon Weston, Lawrence G. Weston and M. G. Weston.

The American Die and Tool Works, Incorporated, 2173 Pacific street, Brooklyn, New York, have been incorporated with a capital stock of $25,000 to manufacture dies, tools and automatic machines. The incorporators are G. L. Goshco, C. Wassill and J. Lucher.

The Steel Hardware Company, one of the oldest hardware firms in Wichita, Kansas, has moved from the Rorabaugh Building to 126 North Main Street, Wichita. J. Arch Lewis, president of the Company, reports that business during the past year has been unusually good.

The Silent Washer Manufacturing Company, of which Robert Fischer is secretary-treasurer, has awarded the contract for the first unit of its new factory, 50x120 feet, two stories and basement, which is to be erected at Clintonville, Wisconsin. The plant and headquarters of the Company were formerly located at Appleton, Wisconsin.

DALE BUMSTEAD WINS HIGH PROMOTION FROM DU PONT COMPANY.

E. I. du Pont de Nemours & Company, Wilmington, Delaware, have sent out a notice stating that on July 1st, Dale Bumstead, manager of their Chicago office, was promoted to an important assignment in their Development Department.

In this capacity, Mr. Bumstead, with his wife, will spend several years in Russia, and they are closing their beautiful home in Oak Park preparatory to departing. Mr. Bumstead's long and faithful service as manager of the Chicago office; his work as president of the Chicago Engineers Club, and his excellence of character have won him a host of sincere friends who deeply regret his leaving, but are consoled by the knowledge that he has received a well-merited reward.

Mr. Bumstead is succeeded by J. F. Wishart, an old and time-tried official of the Company.

DAVENPORT MANUFACTURING COMPANY IN NEW FACTORY.

The Davenport Manufacturing Company, Davenport, Iowa, of which Reed Lane is president; W. H. Martin, vice-president and general manager; M. Hensing, secretary, and C. D. Martin, treasurer, have moved into their new, fireproof factory, which was recently erected at a cost of $100,000. The Company manufactures the Schick steel fireproof paper balers and are gradually making extensions to their line. A number of branch offices have been established in the United States and special representatives will visit South America and the northern countries in Europe.

MINNESOTA DEALERS TO HOLD 1918 CONVENTION AT ST. PAUL.

At a recent meeting of the Executive Board of the Minnesota Retail Hardware Association, it was decided to hold the 1918 Convention of the Association at St. Paul on February 19th to 22d.

MANUFACTURERS AND JOBBERS HEARTILY APPROVE DISCONTINUANCE OF WASTFUL FINISHES ON HARDWARE.

It will be remembered that a short time ago President Plumb of the American Hardware Manufacturers' Association sent a letter to the secretaries of the National Hardware Association and the Southern Hardware Jobbers' Association, suggesting the discontinuance of expensive finishes on hardware items because such finishes are an extravagance in war times which should not be tolerated. He also pointed out that the elimination or reduction of expensive finishes would allow the jobber to concentrate on fewer lines not so high in price, thus releasing part of his capital invested and promoting a quicker turn-over.

The letter wound up with an inquiry if an attempt in this direction would meet with the approval and support of hardware jobbers, and in the following letter to the members of the manufacturers' association, President Plumb states that the suggestion to discontinue wasteful finishes has met with as ready approval from both jobbers and manufacturers as the previous advice to eliminate slow selling items. Manufacturers can therefore be assured of the jobbers' support in any action they may take to discontinue expensive finishes:

TO THE MEMBERS OF THE AMERICAN HARDWARE MANUFACTURERS' ASSOCIATION:

DEAR SIRS:

We are pleased to report that the suggestion in regard to discontinuing wasteful finishes on hardware appears to have met with as great an extent of approval from both the hardware jobbers and the manufacturers as the original suggestion to eliminate slow selling items. Enclosed is copy of letter received from Mr. T. James Fernley and of our letter to Mr. Fernley, each reporting to the other the attitude of our respective associations on this question.

At the same time we wrote to Mr. Fernley we wrote a similar letter to Mr. Donnan. The members of the Southern Hardware Jobbers' Association have expressed their approval as heartily as have those of the National Hardware Association of the United States. It is evident, therefore, that the manufacturers can be assured of support from the jobbers in any efforts they may make to discontinue wasteful finishes which do not add to the quality, utility or durability of the article.

FAYETTE R. PLUMB,
President.

Philadelphia, June 28, 1917.

The letter from T. James Fernley, Secretary-Treasurer of the National Hardware Association, to Mr. Plumb, which is referred to in the foregoing, follows herewith:

FAYETTE R. PLUMB, President,
American Hardware Manufacturers' Association,
Philadelphia, Pennsylvania.

DEAR MR. PLUMB:

On June 2nd it was my pleasure to send the members of this Association a copy of your letter of May 31st, calling attention to the importance of eliminating as far as possible unnecessary finishes on goods sold by hardware jobbers, and in this way make it possible for manufacturers to produce a larger quantity of goods on which the demand was so unusual.

I take pleasure in advising you that more than ninety percent of the members of this Association who have responded to the communication express absolute approval and are ready to follow the suggestion made.

Of course our work is entirely of an educational character, but we believe that a sentiment created by your communication will lead to a course of action which will make it comparatively easy for manufacturers to follow the suggestion which you have made.

President Plumb's letter to Mr. Fernley was as follows:

DEAR SIR:

Your members will I am sure be interested in hearing how the members of the American Hardware Manufacturers' Association received the suggestion that in addition to eliminating from their production and sale such items as experience has proven can not be sold in sufficient volume to warrant their continuance, they should also discontinue the production of wasteful finishes which do not add to the quality, utility or durability of the article.

We have received to date replies from eighty-five manufacturers, eighty-three of whom approve the suggestion heartily, with the further statement that over two-thirds of these eighty-three can and will apply the suggestion directly to their own product. Only two of the eighty-five do not fully approve of the suggestion. One of these raises the question that his competitors might secure an advantage over him if he should decrease the variety of his finishes. Another voices his objection as follows:

"There is considerable food for thought in these several letters, and while the extraordinary period we are passing through justifies heroic means to take care of conditions, the manufacturer to my mind should consider the future of his product. Years of effort have produced articles on which he has built a reputation and anything that may be done to reflect on the quality of the article would be detrimental."

Among the letters voicing approval of the suggestion the following quotations occur:

"We certainly commend the officers of our organization for the thoughtfulness that they are showing on all these matters of public benefit, and interest, and it shows that our organization is really worth while under the present crisis."

"We most heartily endorse the object set forth in his letters of June 2d, and believe it not only practicable, but almost imperative, that such a step be taken as soon as possible by the hardware manufacturers."

"And if the condition grows worse (which is likely) the time will come when it will be a necessity and no option given the manufacturer as to what steps he must take along these lines."

"It will be of tremendous advantage to the hardware manufacturers if they could economize in the un-

necessary finishing operations and we believe that it would be a step in educating the public to the values of inherent quality rather than external finish."

"He asks if the idea as explained can be applied to our business. We are pleased to advise you that it can and has been for the last four years, and that is the question of boiling down a whole lot of useless articles and finishes on our hardware into a few commercial lines with a few commercial finishes."

"In fact we are making arrangements to very greatly simplify our entire line of goods so that the same number of people will turn out larger quantities."

"Years ago it was said that one of the great fundamental features of investment in the hardware trade was its freedom from style or decay. As we see it in the reverse order of today, the emphasis of style has to a certain extent marked a serious decadence."

"And if it might be possible to indefinitely continue manufacturing a reduced assortment it seems very likely that we might be better off."

"We believe that the Association is on the right track in urging action of this sort upon all American manufacturers and that when we have all put this doctrine into effect we will not only have simplified our business as manufacturers, but will have greatly simplified the problems of the distributors, both jobbers and retailers, and that the ultimate consumer will be even better served than under present conditions."

"And we are quite sure that a movement in this direction will meet with the approval and general support of the hardware jobbers."

It is evident from the above that the sentiment of our members is strongly in favor of giving practical effect to the suggestion not only to eliminate from our production and sale those items which experience has proven are not sold in sufficient volume, but also to discontinue during present conditions the manufacture of wasteful finishes which do not add to the quality, utility or durability of an article, but are intended simply to catch the eye and stimulate sales. We are confident the members of your association will cooperate with us to the fullest extent in this object.

Yours, very truly,

FAYETTE R. PLUMB,
President.

Philadelphia, June 20, 1917.

SPECIAL TOURIST AUTO RATE ON STEAMERS PLYING BETWEEN CLEVELAND AND BUFFALO.

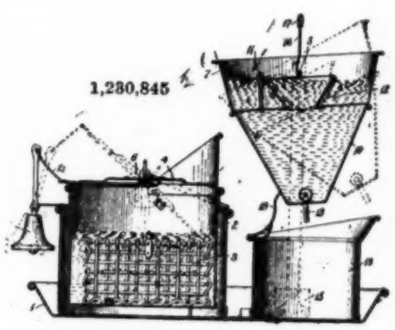
Automobile tourists whose schedule includes a trip between the cities of Cleveland and Buffalo will no doubt find it a delightful feature to run their car on board one of the steamers of the C & B Line, enjoy the cool night ride on Lake Erie, and be ready bright and early in the morning to continue their journey. A special rate of $5.00 for the round trip, with two days return limit, is made for cars not exceeding 127 inches wheelbase. A week-end trip arranged in this manner permits the motorist to spend his full time at either city, as the steamers leave Cleveland and Buffalo at 8:00 P. M. every day and arrive at 6:30 in the morning. From Buffalo he can tour to Niagara Falls and many other points of interest in Western New York, and Cleveland also has many interesting short runs to Cedar Point, Akron and its nearby lakes, the McKinley Memorial at Canton, etc. The C & B Line has three large steamers plying daily between the two cities and on each the employes are trained in the prompt and careful handling of automobiles. Special Automobile Folder containing tourists' route maps of territory east of Buffalo and west and South of Cleveland can be obtained by addressing the Cleveland and Buffalo Transit Company, Cleveland, Ohio.

GEORGE D. KIRKHAM RECEIVES WELL-DESERVED PROMOTION.

George D. Kirkham, who has been representing the American Steel & Wire Company in the Southern States, for a number of years, has gone back to the territory he formerly was familiar with in the olden days before the Washburne and Moen interests were affiliated with the American Steel & Wire Company. George has now been promoted and on July 1st assumed charge of sales in the Northwestern District with headquarters in St. Paul. His many friends will be glad to know of his well-deserved promotion.

EGG COOKING APPARATUS AND TIMER PATENTED.

Ralph V. Blake, New York City, has secured United States patent rights, under number 1,230,845, for an egg cooking apparatus and timer described herewith:



In an apparatus for controlling the cooking of eggs, a receptacle having two compartments, one above the other, the upper compartment having a central opening leading to the lower compartment, the lower compartment having a discharge outlet, means for controlling the discharge of water from the lower compartment independently of the upper compartment, a pivotal support for the receptacle near its upper portion and a stop for holding the receptacle in position so that its center of gravity when both compartments are filled with water is at one side of the vertical plane through the pivotal support whereby when the water has been discharged, from the lower compartment the receptacle will become over balanced and discharge the water from the upper compartment.

COMING CONVENTIONS.

Mississippi Retail Hardware Association Convention, New Orleans, Louisiana, July 17, 18, 1917. Walter Harlan, Secretary, 44 Boulevard Circle, Atlanta, Georgia.

American Society of Heating and Ventilating Engineers, Chicago, July 17, 18 and 19. C. W. Obert, 29 West 39th street, New York City, Secretary.

American Washing Machine Manufacturers' Association, July 25 and 26, at Hotel Sherman, Chicago. Raymond Marsh, Otis Building, Chicago, Secretary.

Tennessee Retail Hardware Association Convention, Chattanooga, August 7, 8, 9, 1917. Walter Harlan, Secretary, 44 Boulevard Circle, Atlanta, Georgia.

Some men never become energetically active unless they are opposing something.

EXHIBITS IN AMERICAN ARTISAN WINDOW DISPLAY CONTEST

KITCHENWARE AND HOUSEHOLD ARTICLES FEATURED IN A STRIKING WINDOW DISPLAY.

Some retail hardware dealers and clerks may be under the impression that it is difficult, if not impossible, to prepare an exceptionally attractive window display of such commonplace items as kitchen utensils and household articles. To these we say, "Look at the window display which is pictured herewith, consider the novelty and the unusual beauty of its arrangement, and you will experience a change of mind." It is to be regretted that a halftone cannot do full justice to the innumerable tiny details which make this a master window display, and to the striking brilliance of the glistening plated and enamel ware. This arrangement, one can safely say, was not completed in an hour or so—it was premeditated, carefully thought out with a view towards giving it maximum attractiveness and effectiveness; and the result is what may well be termed a standard in displaying these lines of hardware.

Window Display of Kitchenware and Household Articles Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. Arranged by John Hardy for the Honeyman Hardware Company, Portland, Oregon.

This very attractive window display was awarded honorable mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, and was arranged for the Honeyman Hardware Company, Portland, Oregon, by John Hardy, winner of First Prize in the competition. Mr. Hardy describes his arrangement as follows:

"The window in which these articles are exhibited is about 12 feet long. The center background within the frame that holds the electric lights is occupied with a picture of the kitchen showing the cook busy with her duties.

"The balance of the background outside the range of lights is covered with brown cloth and at both ends of the background are cards calling the attention of the ladies to the fact that the kitchenware department is located on the ground floor convenient for easy and hasty shopping.

"A number of culinary articles are arranged around these cards to give the display a 'punch.'

"Floral decorations are also added to make the display attractive and pleasing to the eyes of the ladies and the public in general.

"The foreground of the display is filled with the many little things used about the kitchen and household.

"There are at least twelve white enamel dinner plates in the foreground filled with articles, such as can openers, faucet washers, anti-splashers, egg beaters and kindred goods, and each lot is marked with a price card. The prices used were extremely low and were intended to meet department-store and 5c-store competition.

"Amongst the many other articles shown is a large line of brushes and also butcher and paring knives.

"The picture itself will give a fair idea of what the display consisted of as a whole. The drapery of the roof, walls and floor of the foreground is of gold-colored bunting."

The knacks of window trimming so advantageously applied in this instance are pointers of distinct benefit which the window trimmer should not neglect to

adopt whenever the opportunity presents itself. The only people whom a window display of this kind would not attract are the insignificant few who are oblivious of the pretty things in life.

FORMATION OF SERVICE BUREAU FOR RETAILERS TO BE RECOMMENDED TO UNITED STATES CHAMBER OF COMMERCE.

In reporting the work of the Executive Committee of the National Mercantile Educational Association, under date of July 1, 1917, Bentley P. Neff, who represents the National Wholesale Dry Goods Association, states that a conference was held in Chicago on May 22nd, 1916, to devise ways and means to coordinate the educational work being done by the various associations, and to endeavor to establish some channel whereby this educational work could be carried on in such a manner as to produce the best results without duplication of effort or unnecessary expense. Delegates from fourteen national wholesale and retail mercantile associations were present, and as a result of the conference a temporary organization was effected, knowns as the National Mercantile Educational Association with Mr. Neff as president.

This committee was authorized to work out some plan whereby there would be co-operation among the national associations for better business methods in all lines of mercantile activity, but primarily for the benefit of the retail merchants, as it was the consensus of opinion the retailer's opportunity for improving conditions was less than that of the wholesaler or manufacturer, and his competition of a keener nature than theirs.

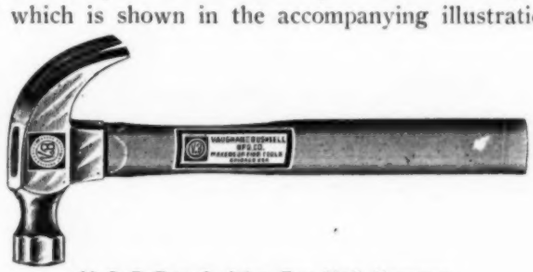
This committee held another meeting in Chicago on September 6th, 1916, and after very mature consideration arrived at the conclusion that instead of the various national associations working independently on educational campaigns of this nature, which several of them had been doing, there should be a co-operative clearing house through which all the work of this character could be accomplished.

What the committee wishes to see accomplished is a standardization of methods comprising advertising, credits, bookkeeping, selling, buying, merchandising, community development and all other things entering into the life and activity of retail stores. It realizes that so much is being written on these various topics that the average merchant has become confused. The time, in its opinion, has arrived for standardization and co-operation to the end that from one source educational work can be carried on systematically and to command the confidence and attention of the retail trade by bearing the endorsement of the various national mercantile associations. The big ambition of the committee is to see the retail merchants of the various communities of this country placed in a position to do business along lines that will give them a good, fair chance of competition, no matter what may be its source.

The committee corresponded or conferred with the Associated Advertising Clubs of the World, the World's Salesmanship Congress, the Chamber of Commerce of the United States, the Federal Trade Commission, and several private organizations who were interested in trade schools, text books, service courses, etc. Several propositions were received and a meeting of the committee was recently called in Chicago to discuss their merits. After an all-day discussion a resolution was passed that the committee, when it deems the occasion opportune, recommend to the Chamber of Commerce of the United States of America the formation of a Retailers' Service Bureau to conduct nation-wide research, analyze retail merchandising, and to place at the disposal of all retailers the result of its investigations together with recommendations. The committee also approved the offer of the McKeand Service Company, Incorporated, of Indianapolis, Indiana, to render assistance towards this end.

NAIL HAMMERS WITH NON-SLIP CLAWS.

The utility of V & B Adze Eye Nail Hammers, one of which is shown in the accompanying illustration,

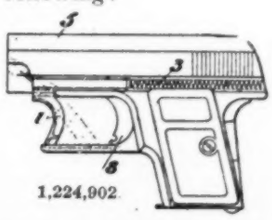


V & B Brand, Adze Eye Nail Hammer.

is materially enhanced by their non-slip claws, said to firmly grip any size nail, from brad to spike. According to the manufacturers, the claws, which are tempered, can be used to grip the shank of a nail and pull it, head and all, through a two-by-four board. The hammers are made of extra refined steel, and the eyes are forged smaller toward the center than at the ends which bind the handle, thus preventing the head from working loose. In addition to these features, the sides are crowning and, it is stated, will not dent the wood when matching flooring or wainscoting. The V & B Brand nail hammers are made in bell face, plain face and octagon patterns, the last being illustrated. Styles are made for other purposes and the entire line of hammers and other tools is shown in the handsome catalog which was recently issued. Copies can be obtained by addressing the Vaughan and Bushnell Manufacturing Company, 2114 Carroll Avenue, Chicago.

AUTOMATIC PISTOL PATENTED.

Witold Chylewski, Lemberg, Austria, has been granted United States patent rights, under number 1,224,902, for an Automatic Pistol described in the following:



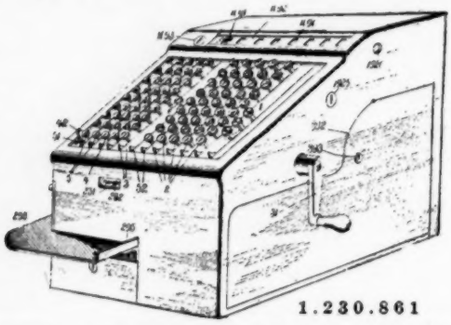
1,224,902.

In an automatic pistol, the combination of a frame provided with a stop, a forwardly spring-pressed slide slidable on the frame, a trigger mounted in the frame, and a finger piece slidable along the frame, adapted to engage with said slide and drive the same into its rear position, said finger piece being adapted to coact with said stop and to be thereby released from said slide when the finger piece is directly in front of said trigger.

CASH REGISTERS PATENTED.

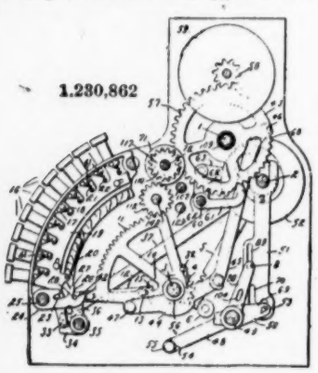
Patent rights on three styles of cash registers have been assigned to the National Cash Register Company, Dayton, Ohio, by Thomas Carroll, Dayton, Ohio, under number 1,230,861; Thomas Carroll and John P. Frank, Dayton, Ohio, under number 1,230,862; and William A. Chryst, Dayton, Ohio, under number 1,230,864. They are described in the following:

Number 1,230,861: In a machine of the class described, the combination with means for entering the kind and amount



1.230.861

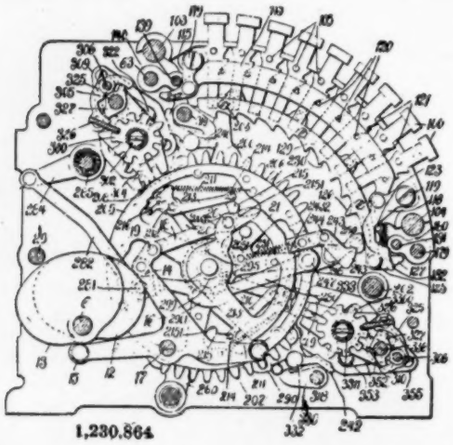
of a transaction upon a record strip by perforating said strip; of a series of type carriers for printing the amount of the transaction along one side of the perforations; and additional type carrier for printing the kind of transaction on the side of the perforations opposite the printed amount; and means for first feeding the strip to the perforating means, thence to the type carrier designating the kind of transaction, and finally to the amount type carriers.



1.230.862

Number 1,230,862: In a machine of the class described, the combination with a main driving mechanism and amount determining keys, of a segment gear designed to be differentially moved by the main driving mechanism under control of the keys, a sliding plate actuated by said keys, elements operated by the sliding plate to positively connect the segment gear with said driving mechanism when any of the amount determining keys are pressed in and cam edges on the keys for positively operating said elements to disconnect the segment gear from the driving mechanism.

Number 1,230,864: In a machine of the class described, the combination with an accounting device, of a differentially movable accounting device actuator, a type carrier having con-



1,230,864

nections therewith, and operative by movement of said actuator, and means for positively driving the actuator and thereby the accounting device under control of the accounting device.

The right dope will always cure a drug on the market.

URGE ECONOMY IN STORE DELIVERIES.

The Commercial Economy Board is composed of A. W. Shaw, president A. W. Shaw Company, Chairman; W. D. Simmons, Simmons Hardware Company; E. F. Gay, dean of the Graduate School of Business Administration, Harvard University; George Rublee, member of the Eight Hour Commission; Henry S. Dennison, president Dennison Manufacturing Company; and Dr. Hollis Godfrey, member ex-officio.

Its duties, as outlined in the official comprehensive statement of the organization and accomplishments of the Council of National Defense and its Advisory Commission, are to ascertain how commercial business may best meet demands made upon it by the war, and how men, supplies and equipments now employed in trade can be made available for the needs of the government without impairing the essential services of trade and without unnecessary hardships to the public at large.

A letter has been addressed to the retail stores in the United States by the Commercial Economy Board of the Council of National Defense, advising them to introduce economies in their delivery services. An investigation conducted by the board has shown that many men and vehicles can be released for military or other service for the country by the elimination of unnecessary deliveries, and it is urged that changes be made not later than August 1, 1917. The letter is as follows:

In the present emergency it is absolutely necessary that the country's resources be used to full advantage to aid in carrying on the war. This requires that all unnecessary services shall be eliminated in retail trade as well as in other lines of business. The Commercial Economy Board has made a careful investigation of the economies that are possible in the delivery service of retail stores. This shows that a large number of men and vehicles can be released for military or other service that is essential to the welfare of the country.

The board points out, therefore, that delivery service in retail stores can be very substantially reduced immediately by restricting the free delivery of small purchases, by eliminating special deliveries, and by other means. If possible, not more than one delivery a day should be made on each route.

The board urges, furthermore, that the acceptance of returned goods be reduced to an absolute minimum, and that all nonessential operations in each store be eliminated.

There is such urgent need for men and equipment in other work that the country can not endure the waste that is occasioned by the abuse of the returned-goods privilege and accommodation deliveries of small purchases.

We trust that we may have your co-operation in making these corrections immediately effective. These changes in delivery methods should be introduced as early as practicable, certainly not later than August 1, 1917. The board will use every resource at its command, including the co-operation of the State councils of defense, to assist in making these changes effective.

The following subjects are already under investigation:

(a) *Delivery Service:* To the end of determining how the delivery service of retail stores may be curtailed during the war, conferences have been held with representative merchants, and agents of the board have made personal investigation of typical stores in Washington, Philadelphia, Pittsburgh and other cities, and a carefully prepared schedule of questions is being sent to several thousand stores in all parts of the country. The work has already disclosed that many retail stores can arrange to release men and equipment from their delivery departments for the government service.

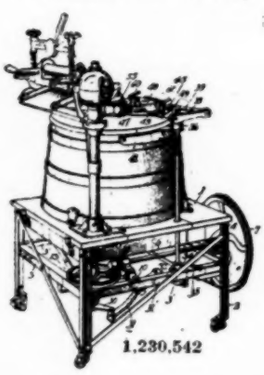
(b) *Other Services*: The board is investigating other means of economy in the operation of retail stores, looking, for example, to the amelioration of the widespread abuse of return privileges, since in numerous stores twenty per cent of the merchandise sold is returned. In this, as in all related subjects, the board is gathering such information as it can regarding European experience.

In wholesale and manufacturing trade matters the board is, for example, as a result of conferences with the National Wholesale Grocers' Association, gathering information from its members on such subjects as economies in wrapping, packing, reduction in size of catalogues and the employment of fewer salesmen for handling their trade.

The Commercial Economy Board has likewise made preliminary investigations of the problems likely to arise from the diversion of certain raw materials from ordinary commercial purposes to the production of military supplies, and plans to work with manufacturers and merchants to learn what modifications in styles should be made in future, in order to secure economy in the commercial use of materials needed by the government for the purposes of war.

PATENTS WASHING MACHINE GEARING.

William H. Voss, Davenport, Iowa, has been granted United States patent rights, under number 1,230,542, for a washing machine gearing described in the following:



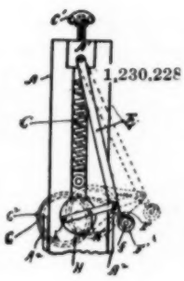
In apparatus of the class described, a support, a hinged member on the support, an oscillatory gear on the hinged member, a rack bar for operating a gear, including means for maintaining the engagement of the rack bar with the gear when the hinged member is raised on its hinges.

AMERICAN HARDWARE IN HONG-KONG.

An American report written shortly before the entry of the United States into the war relates to hardware supplies in Hong-Kong. It is remarked that the hardware trade in the Hong-Kong field during the past year has been one of struggle on the part of European manufacturers to hold a market they once practically controlled. In few instances have they been able to do so, and the result has been that in spite of high prices in the United States and high freights, and especially of slow deliveries, American trade in hardware has forged ahead. The increase is particularly important in this line, for the reason that American hardware was commencing before the war to have an increasing hold upon the Hong-Kong market.

Before the war Germany had a large trade in cheap hardware, Austria also having a fair hold in some lines, such as enamelled ware. Much of this cheap trade has gone to Japan. Another result of high prices and the difficulty of securing goods has been an increase in the use of Chinese-made substitutes for foreign goods. In spite of drawbacks in the trade, imports of hardware during the year show a fair increase over those of the previous year, while imports from the United States have more than doubled.—*Hardware Trade Journal.*

CLOTHES WRINGER PATENTED.



Paul H. Schendler, Erie, Pennsylvania, has secured United States patent rights, under number 1,230,228, for a clothes wringer, described in the following:

In an apparatus of the class described, a clothes wringer, a plate adapted to reciprocate adjacent to the intake side thereof, and means operated by the shaft of one of the wringer rolls to cause said plate to reciprocate, substantially as described.

FOREIGN CREDITS NOW OF VITAL IMPORTANCE.

In address before the annual convention of the National Association of Credit Men held recently at Kansas City, Missouri, Edward Ewing Pratt, Chief of the Bureau of Foreign and Domestic Commerce gave three fundamental reasons why the subject of foreign credits should be uppermost in our minds today. These, he said, are, first, the tremendous growth of our foreign markets and the likelihood that many of these new markets will be permanent; second, the enormous destruction of capital now taking place, which for many years to come will put a burden on the credit structure of world trade; and, third, the fact that in this greatest and most desperate war of all history the nations with which we are cooperating are anxious to conserve their limited supplies of gold, while many neutral nations from whom they and we are drawing supplies are either unable or unwilling to continue to furnish these supplies on the basis of future payment.

We know from the limited amount of news that trickles through from the central powers that very ambitious plans are being made to dominate the world's trade after the war. A speaker at an Austrian meeting of invited manufacturers is quoted as stating that plans have been perfected whereby after the war 120,000,000 people, the total population of Germany and Austria-Hungary, will buy their supplies from the rest of the world as a unit. We know that the various industries of Germany have been

more and more consolidated into cooperating groups until virtually all German industry has united as one organic producing and selling agency backed with the full power of the great German banks and the organization of the German Government.

One of the most important and effective steps that the entente powers and this country can take, not only to meet this trade colossus but to more effectively promote the commercial ideas for which we stand and to serve the interests of the less developed countries with which we trade, is to so organize our facilities for extending credit that never in the future shall smaller and weaker countries be forced to depend upon a power so dangerous to their freedom.

America's opportunity in this great time of stress and sacrifice is to render every service in its power to those less fortunate and less able than itself, to facilitate the way of those who come to us with their orders, to extend its economic and industrial resources as well as its military power to those who need and merit them.

FIREARMS LEGISLATION DEFEATED IN PENNSYLVANIA LEGISLATURE.

About a month ago we published an article telling how "Deacon" Salisbury of the Iver Johnson's Arms and Cycle Works was instrumental in defeating unfair firearms legislation in the state of Missouri, and a letter recently received from Frank I. Clark, another Iver Johnson representative, indicates that he also has not been idle in this respect.

Writing of legislation in Pennsylvania, Mr. Clark states that the governing body there broke all records in length of meeting, being in session six months lacking a few days. The papers "roasted" the legislators for wasting time playing politics, but although the assembly may have been inactive as regards other matters, they were quite active concerning revolver legislation and in all, seven bills affecting the dealers were introduced.

One bill, Number 13, with all the influence of the district attorney and the constabulary behind it, was the most vicious, and another bill, Number 868, also had several features which would have acted to the detriment of the dealer and to the public at large. These bills went through the regular routine, but were defeated on final passage, mainly through the persistent efforts of Mr. Clark. The other bills did not advance.

In the interest of the entire trade of Pennsylvania, Mr. Clark, by grace of the Iver Johnson's Arms & Cycle Works, had attended the sessions of the legislature every week since the beginning of the assembly, and devoted his entire time to watching the bills, writing letters to the trade, interviewing, attending hearings, etc. He reports with pleasure that the interests of revolver dealers throughout the state after this long session of the legislature are in no way menaced by the restrictive measures which are gotten up without any regard for the rights of the law-abiding citizen. This was made possible by his untiring efforts and his steady appeals to the trade, who soon gave him their hearty co-operation. They may at times have thought Mr. Clark a nuisance because of his insistence, but now they have the satisfaction of knowing that their responses to his suggestions have had the effect of leaving the firearms business in Pennsylvania unmolested.

In concluding the letter, Mr. Clark takes occasion to thank AMERICAN ARTISAN AND HARDWARE RECORD for the part it has taken in bringing the attention of the hardware trade to this matter of anti-revolver legislation. "If every hardware journal took as much interest as you take in these matters," he states, "it would be much easier to educate the trade, and through the trade, the members of the legislatures, about the bad features in these firearms measures."

FOREIGN TRADE OPPORTUNITIES ARE PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

24782—Catalogues in regard to tools for culture and industry are desired by a man in France.

24783—An agency is desired by a dealer in Italy for the sale of kitchen utensils and bathroom apparatus. Correspondence may be in English. References.

24787—An agency is desired by a firm in Italy for the sale of all kinds of electrical appliances and apparatus. Correspondence should be in Italian or French. References.

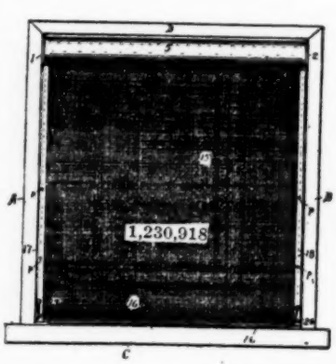
24806—A Government architect in France desires to secure an agency for the sale of building material, especially builders' hardware.

24807—A company in Canada is in the market for white enameled ranges. Quotations should be made f. o. b. point of shipment. Cash will be paid.

24810—A firm in Melbourne with foreign branches in the Far East has opened a branch purchasing and export department in the United States and desires to be placed in communication with American manufacturers and exporters of tools and steel products in general and other general merchandise. It will also make outright purchases in some cases.

ROLLER WINDOW SCREEN PATENTED.

Theodore R. Miller, Richmond, Indiana, has obtained United States patent rights, under number 1,230,918, for a roller window screen described herewith:



A roller window screen comprising end plates attached to the window jambs, bearings projecting toward each other from said plates, a roller mounted in connection with said bearings, a screen having one end attached to the roller and adapted to be wound there-around, a metal strip secured to the other end of the screen, means for automatically causing the screen to be wound upon the roller, a hood surrounding the roller and the screen, there being a downwardly opening slot through said hood for the screen to operate through, hooks carried by said strip and adapted to engage one of the lips of said slot, and guide-ways secured to the window jambs and extending downward in alinement with said slot.

THE SISAL INDUSTRY IN EAST AFRICA.

One of the many effects of the war in its relation to agricultural products, says a recent commerce report, has been an abnormal increase in the price of sisal fiber and other hard fibers, on the London market. In 1914 sisal sold there for £22 ($107) per ton of 2,240 pounds, whereas present-day quotations run as high as £68 ($331) per ton. While much of this increase may be attributed to the present excessive ocean freight rates, the use of hard fiber in the manufacture of certain war material, the increasing demand due to the ordinary development of the world's industries, and a decreased production of fiber by reason of political and military conditions in certain fiber-growing countries have all had their effect upon the present situation. The result has been a great revival of interest in fiber production in every country where soil and climate hold forth a reasonable promise of success. The industry in British East Africa and German East Africa has already passed through the experimental stage, and the former, at least, is beginning to reap the benefit of the development of past years.

As the United States imports some 300,000 tons of hard fibers annually for binder twine and other purposes, a detailed description of the industry in East Africa may be of interest in view of its steadily increasing importance as a source for a large future supply.

Industry Started in German East Africa.

The history of East African sisal dates from the year 1893, when the German East Africa Company imported 1,000 sisal plants from Florida. The few that survived the journey were carefully nurtured and by 1900 over 150,000 healthy plants had been established. As some of these were then ready for cutting, fiber-extracting machinery was imported and the first shipment of clean fiber consisted of 7½ tons which was valued at £155 ($755). Since that time the industry in the colony has steadily developed, the export in 1904 amounting to about 1,000 tons; in 1909, 5,284 tons; in 1911, 11,035 tons; and in 1913 approximately 20,000 tons.

Since 1914 the sisal plantations there have practically been abandoned owing to the military operations in that territory, some of which were carried on in the sisal district. Plans for rehabilitating the industry are under discussion and it is believed that in another year the output will at least equal that for 1913.

Development in British East Africa.

In the Protectorate of British East Africa experiments with sisal fiber were not started until about 1903, although the commercial production of sansevieria, a fiber similar but inferior to sisal, from a wild plant indigenous to the country, had been carried on for some years, its production being abandoned in 1911 to give place to the cultivated sisal. The result of the Government's experiments and the experience gained in the neighboring colony led to its commercial planting in 1907. In that year, however, German East Africa, from which planters had previously obtained their "bulbils," placed an export duty of about $20 per thousand on these plants, and the growers were forced, at great inconvenience and considerable expense, to import them from India.

In 1910 a small shipment of clean fiber from these plantings was sent to London for analysis and sale. The returns showed remunerative prices received and a good market available for the product. The report on a sample submitted to the Imperial Institute for analysis stated that the fiber showed very good strength, and the sample shipment sold for £5 (nearly $25) per ton over market prices for Mexican henequen (Yucatan sisal).

Acreage and Exports.

In 1912 the total acreage in British East Africa devoted to sisal amounted to 7,000, which had increased to approximately 18,000 acres in 1916.

During the year ended March 31, 1915, British East Africa exported 33,621 hundredweight (1,681 long tons) of sisal fiber, valued at $175,481, of which 93 percent went to the United Kingdom, 4 percent to the United States, and 2 percent to Italy. In the previous fiscal year the total exportation amounted to 22,340 hundredweight (1,117 long tons), valued at $63,434, of which 7 percent went to the United Kingdom, 18 percent to the United States, and 8 percent to Germany. It is explained that the high prices on the London market and the difficulty of securing space for shipments to the United States were responsible for the decrease in the exports to America in 1915. Owing to the large areas now coming into bearing it is thought that the production during the calendar year of 1916 was in excess of 5,000 tons. On the basis of the growth of the industry in German East Africa it is reasonable to expect that the exports from British East Africa in 1918 will be in excess of 10,000 tons, and over 20,000 tons in 1920.

Preparing the Land for Cultivation.

In the early plantings of this crop in East Africa the preparation of the land was apparently confined to clearing off the brush, no plowing or general breaking being practiced. Planters, however, have come to the conclusion that thorough breaking of the land in the first instance is essential to strong healthy plants, and most of the land devoted to new plantings is being so prepared. This is usually done by hand labor in those districts where oxen are not available on account of the tsetse fly. The fields are cleaned and cultivated from 2 to 4 times per year during the life of the plant (about 6 years). This work is practically all done by hand labor, one man cultivating about 150 plants per day, the cost per acre for each cultivation being about 4 rupees ($1.30).

Propagation—Planting Methods.

Propagation is accomplished by means of "bulbils" or rhizome suckers. The bulbil is a small plant which develops on the pole, or middle stem, of the parent plant after the latter has reached full maturity—in British East Africa from 6 to 7 years after planting. Each parent plant produces from two to three thousand of these bulbils. The pole grows to a height of 15 to 20 feet and marks the end of the life of the parent plant. The weight of these poles is estimated to be about 25 tons per acre, and they, together with the old plants, are pulled out and burned, the dying-out process being hastened by injecting a solution of arsenite of soda into the poles after the last leaves are cut. If the bulbils are used for replanting they are placed in nurseries until they are about 10 inches high, when they are transplanted to the fields. Generally speaking, planters in this Protectorate have abandoned the former practice of using bulbils and nearly all have turned to the sucker as being the more satisfactory. When these are purchased the price is about 8 rupees ($2.60) per thousand.

Harvesting—Transportation—Yield of Fiber.

Three years from the date of planting the first leaves are ready to cut. The cutting is done with a long heavy knife or sickle having a curved end, it being especially made for the work. Only those leaves which have acquired sufficient length (3½ to 5½ feet) are cut, the operation being repeated every six or eight months during the life of the plant and until it poles (usually in the sixth year). In Yucatan it is stated that the leaves of the henequen are not ready to cut until the fifth to seventh year after planting. Henequen plants live longer than sisal, with a productive period of 8 to 15 years, and most of them finally die without poling. An average cutter will take off about 1,000 leaves per day, for which he receives approximately 50 rupee cents ($0.16).

The leaves are tied in bundles of 40 and piled on convenient hand cars running on light tracks laid throughout the matured fields. In some plantations these cars are moved by small locomotives or by gasolene power, while most of the smaller plantations employ natives to push them to the factory. A recent agitation favors aerial ropeway conveyers for those plantations where the factory is located at a lower level than the fields, the advantage being that no power whatever is required as the descending loaded carriers pull up the empties. American manufacturers of this kind of apparatus should immediately get into correspondence with the planters here, for it is evident that changes in transportation methods are being considered.

An average leaf weighs about 2½ pounds. On this basis, and allowing for poor leaves discarded at the factory, it requires 17 green leaves to make 1 pound of dry fiber. With 680 plants to the acre, this gives a total production of dry fiber per acre for the three producing years of 6,400 pounds, or slightly less than 1 long ton of dry fiber per acre per year. These figures represent average conditions and are reasonably conservative.

Extraction and Preparation of the Fiber.

After arrival at the factory the green leaves are immediately put through the extracting machine, as delay causes the natural juices to become dry and gummy, thus making extraction difficult and unsatisfactory. On some of the larger plantations grading for length is practiced, i. e., the leaves are sorted according to six standard lengths, the resulting fiber being 34, 36, 42, 48, 52 and 60 inches long. The leaves are separately placed on carriers which run them through the decorticator, the process being effected by first crushing the leaf and then scraping or scutching away the fleshy part. The machine used for this work is a modern evolution of the old Mexican "raspador," usually consisting of two large wheels revolving at high speed and having wide faces on which are

affixed pieces of metal (usually brass) at intervals of 10 to 12 inches. The leaf, held by strong clamps, passes under the first wheels, which extracts the fiber from one half of the leaf, or rather scrapes away all of the leaf except the actual fiber, and then passes to the next wheel, which completes the operation. A good machine will extract fiber from 100,000 selected leaves per day of 10 hours, that being equivalent to a little more than 2 long tons of dry fiber.

From the decorticator the fiber is carried to large concrete tanks through which clean water passes at the rate of about 500 gallons per hour. There the fiber is thoroughly washed by natives, after which it is hung on wire lines in the sun for drying and bleaching, a process requiring about 12 hours' exposure in the sun. No drying machinery has been used here, although it is reported that Yucatan planters have used such equipment with some success. If the drying fiber should be exposed to the rain it becomes stained, thereby impairing its market value to some extent. If it is permitted to stand in a wet condition for more than a day it turns black and is inclined to mold.

"Brushing" and Baling.

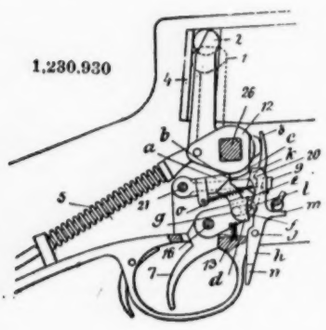
After being thoroughly dried and bleached it is passed through a beating and cleaning ["brushing"] machine which frees it from dirt and pithy matter, separates the strands, and gives it a gloss or sheen. In this process all short strands are brushed out. This short fiber forms an important by-product, as it is valued at something over £12 ($58) per ton on the London market for use as an upholstering material. The beating machine is a simple affair consisting of a frame drum revolving at high speed on which wooden or round iron crosspieces are affixed at intervals. The operator holds one end of a "hand" of fiber against the drum until it is clean, and then reverses the "hand" and cleans the rest of the fiber.

The finished fiber is baled in presses, the "hands" being laid in straight or doubled and packed close with the folded end at the edge of the bale. Each bale contains only one of the six standard lengths of fiber, except on some plantations where no grades have as yet been established. The bales weigh about 400 pounds and measure from 16 to 24 cubic feet, according to the style and efficiency of the press.

Planters estimate that the total cost of producing East African fiber, including the cost of transportation from the plantation to the seaport at Mombasa or Kilindini, is $60 per long ton.

PATENTS TRIGGER MECHANISM FOR AUTOMATIC FIREARMS.

Under number 1,230,930, United States patent rights have been granted to Jens Theodor Suhr Schouboe, Holte, near Copenhagen, Denmark, for a trigger mechanism for automatic firearms, described in the following:



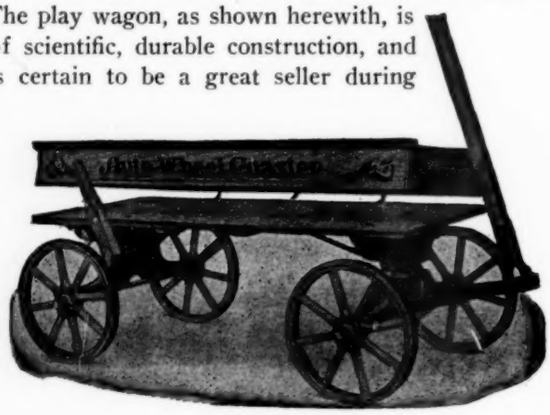
In a trigger mechanism for automatic firearms, the combination with a trigger, a movable percussion member, a sear for the said member and a movable recoil member, of a movable catch adapted when in operative position to engage the recoil member and secure it against breech-closing movement upon arrival at its retracted position, and means controlled by the trigger for rendering said catch inoperative when trigger is pulled.

SAW CUTS TWO CHAIN DOGS WITHOUT MATERIAL INJURY.

The "Disston Crucible," house organ of Henry Disston and Sons, Incorporated, manufacturers of saws and tools, records in a recent issue several more instances of the exceptional strength of Disston mill saws and their ability to penetrate metal objects without material injury to the saws. One of these occasions is referred to as "Hard on the Dogs," and illustrates two chain dogs cut in a mill. One of the dogs was cut completely in two, and the other ripped for two inches diagonally across, almost cutting it in two. Both were cut with the same band saw, and all that was required to put it back in regular running condition was a good deep bite with the swage, a few blows with the hammer to straighten some of the points, and a few rounds with the grinder. As another example is pointed out the record of a Disston Suwanee cross-cut saw, which ran every day for four months, cut 75 logs a day, averaging 5½ to the thousand feet, and after four months of this strenuous service, was sold to a cross-tie maker who claims that it is still in use and doing good work. Full details of the Disston saws and copies of the "Disston Crucible" can be obtained by addressing Henry Disston and Sons, Incorporated, Philadelphia.

AUTO-WHEEL COASTERS ARE NOW BEING EXTENSIVELY ADVERTISED TO CONSUMERS.

The tremendous business done during the past year on Auto-Wheel Coasters, the popular play wagons for youngsters, has encouraged the manufacturers to double their advertising, and they are now emphasizing the merits of this article in the foremost magazines in the country. Thus their message is being carried into the best homes in the country, and better results than ever accrue to the manufacturers and incidentally to the dealers who take advantage of this national advertising. All inquiries that come to the manufacturers are turned over to the dealers, and the latter realize that sales of the Auto-Wheel Coaster open up new accounts which also mean business in other lines. The play wagon, as shown herewith, is of scientific, durable construction, and is certain to be a great seller during the spring and summer. Dealers desiring full particulars should address the Buffalo Sled Company, Department C, North Tonawanda, New York.



Auto-Wheel Coaster.

Selling goods is the real purpose of salesmanship, but pleasing customers is the real secret of successful selling. Make every customer feel that he or she is welcome. Let the customer feel that every clerk in your establishment is personally interested in serving him well. See to it that every clerk is your real representative in spirit as well as in fact. It will mean a higher business standard and a more substantial following. Store efficiency should reach its highest development in the personnel of the selling force. No other single factor is so potent for either success or failure.

DEPARTMENT OF COMMERCE ISSUES ABSTRACT CENSUS OF MANUFACTURES.

The Bureau of the Census of the Department of Commerce has just issued the Abstract of the Census of Manufactures. This presents, in convenient form, with an alphabetical index, all the information that will be needed by the great majority of persons who have use for the statistics of manufactures. It gives, for 340 separate manufacturing industries, figures relating to number, size and character of ownership of establishments, and states in which located; proprietors, officials, salaried employes and wage earners, classified according to sex and, in the case of wage earners, according to whether 16 years of age or over, or under that age; salaries and wages paid; power used; fuel consumed; cost of materials; value of products; quantities of principal products; and various other items. Statistics somewhat similar in scope but in less detail are given, with reference to all industries combined, for each state and geographic division and for each of the leading 130 cities. The Abstract, which is issued in the form of a 722-page volume, 9½ by 6¼ inches in size, bound in cloth, is not for free distribution, but may be obtained by purchase from the Superintendent of Documents, Government Printing Office, at 65 cents per copy.

The Bureau of the Census is also issuing a report entitled, "Financial statistics of cities having a population of over 30,000, 1916," which gives interesting facts concerning the larger American cities.

In 149 of the 213 municipalities of more than 30,000 population the excess of expenditures for governmental costs, including interest and outlays for permanent improvements, over revenues during the fiscal year 1916 amounted to $86,013,326, or $3.68 per capita. In the remaining 64 cities the excess of revenues over expenditures was $12,422,256, or $1.40 per capita. Taking the entire 213 cities as a group, the excess of expenditures over revenues amounted to $73,591,070, or $2.28 per capita. The net indebtedness of these cities averaged $76.64 per capita—a figure nearly eight times as great as the corresponding one for the National Government. Eighty-nine cities, or nearly 42 percent of the total number, are operating under the commission form of government. These are scattered throughout 27 States, in addition to the District of Columbia. Many cities of less than 30,000 population, concerning which the Census Bureau does not obtain statistics, have also adopted the commission plan.

BUSINESS RECORD SYSTEM FOR HARDWARE STORES VERY VALUABLE.

The Business Record System prepared by the Associated Advertising Clubs of the World for hardware stores is just what is needed by the merchant who hasn't much time to give to bookkeeping, being composed of four records that require only a few entries a day. Retailers are on the lookout for a simple and practical plan that is not involved and yet gives all the details necessary for running a business successfully.

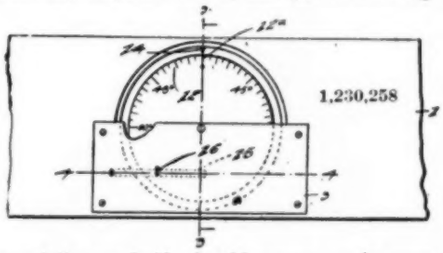
A banker's confidence is inspired when he sees that a merchant knows what is occurring in his business—knows his costs, knows how to figure profits and how to speed up his turnover, for with this knowledge he guides his business and determines his business policies. Such was the case when W. L. Curry, a progressive merchant of Urbana, Illinois, came to his banker for a loan and was told after his Business Record System had been examined, "Sure, you can have the money and more, too, if you want it."

On pages 28 to 30 of the March 17th issue of AMERICAN ARTISAN AND HARDWARE RECORD, the four records of which the system consists were specifically described and dealers can secure further particulars by writing to the Associated Advertising Clubs, Indianapolis, Indiana.

SECURES PATENT FOR LEVEL.

William P. Wood, Roseberry, British Columbia, Canada, has procured United States patent rights, under number 1,230,258, for a level, described in the following:

In a level structure, the combination, of a body provided with a centrally disposed recess, side plates forming closures



for substantially one-half of said recess, a pin supported by said side plates, a disk rotably mounted upon said pin and having its upper half hollow and its lower half solid, and graduations formed upon each side of said disk about the periphery thereof, and an indicating finger carried by said body and adapted for coaction with said graduations, and means carried by said body for engagement with one side of said disk for arresting movement of the disk.

RETAIL HARDWARE DOINGS.

Arkansas.

The Monroe Mosley Hardware and Grocery Company, Warren, has been incorporated with a capital stock of $10,000 by J. E. Barker, Monroe Mosley, James Wear and L. R. Johnson.

Iowa.

The McCollum Hardware Company, Winterset, has been incorporated with a capital stock of $10,000. The incorporators are C. B. McCollum, J. W. Krell and S. A. Hays.

Nebraska.

A new building is being erected at Scottsbluff for the Gates Hardware Company.

R. A. Zahn, Verdigre, has purchased the F. C. Maly hardware store.

Owen and Son, Friend, have sold their hardware store to Spad Brothers, who moved the stock to Crite.

South Dakota.

Walter C. Macy, Bryant, has purchased a hardware store.

N. J. Svenstrup, Davis, has sold his hardware store to Schultz and Company.

G. A. Severin has purchased the hardware business of Crooks and Lott at Hartford.

Texas.

The Truax Hardware Company, Hansford, has been incorporated with a capital stock of $12,000 by J. A. Truax, C. F. Truax and P. M. Woodring.

Wisconsin.

Herman Bohn has bought the Felshow stock of hardware at Clintonville.

The Kutzke-Senger Hardware Company, Portage, has changed its name to the Kutzke-Meyer Hardware Company.

AUTOMOBILE ACCESSORIES SOLD BY HARDWARE DEALERS

HEATING DEVICES FOR AUTOS TO BE MADE AT FORT WORTH, TEXAS.

The Hardwick-Roberts Heater Company, a $50,000 corporation, has decided to build its home plant at Forth Worth, Texas. Several sites upon which to locate the factory are under consideration, and a definite location will be announced shortly. The plant will occupy two to three acres and will employ about fifty men.

The Company is to manufacture a device for the heating of automobiles, the secret of which is said to be a shift valve controlling the exhaust from the engine. According to the directors, the device is applicable to any vehicle or boat driven by a gasolene engine, and consists of a series of pipes which direct the heat of the engine from the exhaust to any part of the car or boat, supplying enough heat for any purpose. The system may also be installed in buildings.

R. L. Hardwick of Dallas, Texas, is president of the Company, the other officers being M. H. Roberts, Fort Worth, Vice-president; R. F. Brumbaugh, Ennis, Vice-president and General Manager; and F. B. Parker, Fort Worth, Secretary and Treasurer.

LOOK FOR BANNER BUSINESS IN AUTO ACCESSORIES.

Automobile traveling promises to be exceptionally heavy this third year of the war, says a writer in *Hardware Trade,* because touring abroad has been absolutely abandoned by the pleasure seeker. Americans are learning their own country and conditions are already favorable for touring.

Naturally this means a heavy business in motor car supplies. Who is going to get this trade? In the South this business is considered as much as a hardware trade as any other merchandise linked with that name. It is getting to be so in the Northwest.

The garage is generally a repair shop. Its men are good mechanics, but usually not salesmen. Like the doctor, they do not pay so much attention to the drugs as to the repair work. The traveling automobilist is getting used to go to the hardware store for a tire or a tire chain, or any other accessory, the same as a man would go to a hardware store for a tool rather than to a machine shop.

Accessories carry as high as 30 to 35 percent profit and are sold daily. Tires possibly return an average of 15 percent and the turnover is large. It is a case of getting a good initial stock and then keeping it up and adding to it. Tests have shown the hardware dealer that this stock takes up less room than many hardware lines, and frequently can be turned oftener.

To help out in this work the merchants should see to it that summer and road hotels improve and offer good facilities and accommodations to motorists touring the country for pleasure. They will not otherwise come again. The tourist business in many states alone runs into the millions, but better preparation must be made to entertain and sell them merchandise this year.

STOVE POLISH USED TO PREVENT RUSTING OF TIRE RIMS.

In addition to its utility in polishing stoves, Black Silk Stove Polish finds use in the automobile world, and it is being applied to tire rims to prevent rusting and to prevent tires from sticking. In using the polish for this purpose, the under side of the tire and rim is painted by means of a brush or cloth, and the ingredients, it is said, are not harmful to rubber and make the replacing of tires a more simple matter. Motorists state that the use of the Black Silk Polish, a can of which is shown herewith, enables them to remove tires without any other tools than a screw driver. Furthermore, rims thus treated are said to be unaffected by moisture, and users who applied the polish when their cars were put away in the fall, say that in the spring the tires came off more easily than they do from a new automobile. Dealers will find it well worth while to advertise this additional use for Black Silk Stove Polish, and full particulars can be obtained by addressing the Black Silk Stove Polish Works, Sterling, Illinois.

Can of Black Silk Stove Polish.

CONDITIONS CONSTANTLY CHANGE.

Conditions in the world have changed greatly in the past fifty years, but the thought and value of real cooperation will remain forever because it is just as essential to our life as religion. In fact, it is a kind of religion of its own, which will produce a happy and contented mind. Encourage the man working at your side and give credit to him whenever it is due.

The continual effort to accord our employers whatever service of which we are capable is one of the basic principles of cooperation, but a man should go farther and realize in his own mind that true cooperation will result from his study of conditions as they confront him in business in order that he too may know what is necessary to properly conduct that business, and as sure as fate recognition will come to such a man.

ADVERTISING CRITICISM AND COMMENT

Helpful Hints for the Advertisement Writer

A NAME PLATE AND YOUR STORE ADVERTISING.

In newspaper advertising the constant use of a characteristic name plate gives the advertiser certain advantages that cannot be gained otherwise. After noting the name plate in several advertisements, the reader learns to recognize it and gradually forms the habit of looking for those advertisements, provided, of course, that they are well arranged, attractive in appearance and contain offers of merchandise in which he or she is interested.

Then, too, the reader appreciates the fact that continual advertising linked with the same name plate is advertising that will stand closest inspection—advertising which the merchant is confident will win him customers, and on which he is willing to stake his reputation. Retail hardware dealers who have not already done so will find it worth while to use a characteristic name plate in their newspaper advertisements and also on their other advertising literature and stationery. Thus they will derive benefits similar to those which the manufacturer gains by using a trade mark.—Jonas Babick.

* * *

The advertisements in the current issue of J. S. Radford's "Hardware Herald," Newbern, Tennessee, include the one shown in the accompanying illustration, which is devoted to the toothsome delicacy so popular throughout the year. Ice cream, according to physicians and food experts, is more than a confection, more than a dish of sweets—it is a food that nourishes and is recommended at all times of the year, especially in the warm spring and summer months when it exerts such a delightfully-cooling effect. Hence you are featuring what is a desirable item when you advertise ice cream freezers, and if you advertise them in an appealing manner, a good share of business in this line is certain to come to you. As a means of improving the advertisement at hand, we suggest that the heading be "Ice Cream Time," or something to that effect, in order to make the following lines consistent. It would also add to the effectiveness to quote a few sizes of freezers and their specific prices. This will provide far more incentive to the reader.

ICE CREAM

Finds us with a stock of Freezers that run easy, Freeze quick, Easy to clean, That makes cream that melts in your mouth.

J. S. RADFORD

* * *

Typical springtime and summer items in the hardware dealers' stock are attractively featured in the six-inch, triple column advertisement shown herewith, which appeals by reason of its neat, simple arrangement. Note the uniform style of easily-readable type headings and text matter, the separation of the various articles, the illustrations making the advertisement so much more interesting, and the price quotations which effectively conclude each little story. The Torrey-McConnell Company, Flint, Michigan, inserted this advertisement in the Flint *Daily Journal* and it is in all respects a model save that the space at the top occupied by the name cut and rules might have been filled to more advantage with a large one-line heading which would draw the reader's attention when he glances through the pages of the newspaper. The name cut does balance nicely at the top and fits in admirably at the bottom, but at the top it cannot have the same attractive power as a large type heading.

TORREY-McCONNELL CO
Garden Tools
Everything you need here. Rakes 19c up. Hoes 19c up. Spading forks 76c and special values on all garden tools.
Garbage Cans
Another lot of good heavy galvanized iron cans grow on sale tomorrow at
98c
Plenty large enough for the average small family. Large ones at $1.00 and $1.76.
Screen Doors
Compare our prices and you will buy here.
Walnut stained doors each ... 98c
Varnished doors
$1.23
Sold complete with trimmings. Please bring measurements.
Poultry Netting
Ours is galvanized after weaving which solders every joint.
4 ft. high, per rod 66c. All other sizes 1c per square foot and 10 percent discount in full rolls.
Refrigerators
A full line now on display
Lawn Hose
50 foot coil for $3.98.
Torrey-McConnell Special
Ball Bearing Lawn Mower
at
$5.95
High wheeled, ball bearing, four cutting knives of the finest steel. Very cheap for such a high grade mower
412 S. Saginaw St.
TORREY-McCONNELL CO
FLINT'S FAVORITE HARDWARE STORE
Builder's Hardware, Oil and Gas Stoves, Paint and Glass.

* * *

Do you realize that the atmosphere of a store has a big influence over its customers? What about yours? Do you remember to smile and keep people around you in good humor. Cheerful surroundings keep clerks happy and when they are in good humor they do better work and will be more patient with customers. People coming into the store cannot fail to notice and appreciate cheerful and obliging service.

HEATING AND VENTILATING

FIRE STOPS IN WARM AIR HEATER INSTALLATIONS.

The absolute necessity of fire-prevention in buildings is a fact with which we are fully acquainted, and fire-stopping is a phase of this prevention that should be put into practice wherever possible, to lessen the fire risk. In the following data on the fire hazard of dwellings, taken from the code of suggestions compiled and recommended by the National Board of Fire Underwriters, the installer of warm air heaters will find pertinent information about the need and advantages of fire-stops; and this knowledge will fortify him with arguments to convince the prospective customer that warm air heating systems should not be purchased and installed on a basis of price only:

Warm air furnaces, laundry stoves and coal ranges, without legs and similar appliances, where hot fires are used, shall rest upon incombustible foundations wherever possible. When necessary to be placed upon wooden floors these shall be protected by sheet metal or a one-eighth-inch layer of asbestos board or building lumber covered with not less than four inches of masonry set in cement mortar. Such masonry shall consist of one course of four-inch hollow terra cotta or two courses of brick or terra cotta, at least one of which shall be hollow and be laid to preserve a free circulation of air throughout the whole course. Concrete may be substituted for a course of solid brick, if desired. The masonry shall be covered by sheet metal of not less than 26 gauge, so arranged as not to obstruct the ventilating passages beneath. Such hearths shall extend at least twelve inches on the side, back and front of the furnace, range or heating appliance; if solid fuel is used the front extension shall be at least twenty-four inches.

Solid brick work will conduct heat quite freely. There are records of fires starting by the ignition of wooden flooring underneath single layers of brick, which supported furnaces or ranges in which hot fires were maintained. Hence the necessity for the double layer and air space.

Any wood work within two feet of the furnace shall at least be protected by a loose fitting metal shield arranged to preserve an air space between the metal and the wood. If tin be used for this purpose the joints should be locked. Instead of lath and plaster a covering of sheet metal might be used. A one-half inch layer of plaster board covered with sheet metal is also a satisfactory covering; metal lath and a three-fourths inch coat of cement plaster will give good protection.

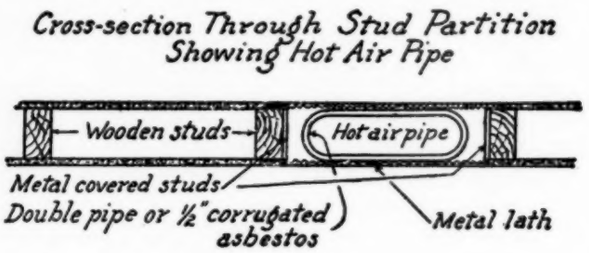
The saving in fuel by completely encasing warm air furnaces with protective covering, well warrants the moderate expenses aside from the advantage of increased safety.

Pipes and Registers.

Horizontal warm air furnace pipes shall be placed at least six inches below wooden beams or wooden lath and plaster ceilings. If the floor beams or ceiling are protected by metal lath and plaster, or covered with loose-fitting tin, or the pipe be covered with at least one-half inch of corrugated asbestos, the distance from the woodwork may be reduced to not less than three inches.

Cold air ducts should be made of incombustible material.

Warm air pipes, where passing through combustible partitions or floors, must be double piped with an air


Cross-section Through Stud Partition Showing Hot Air Pipe
Wooden studs
Hot air pipe
Metal covered studs
Double pipe or ½" corrugated asbestos
Metal lath

Protection of Warm Air Pipe in Wooden Partition.

space between them; no wood work to be within one inch of the outer pipe. No wooden lath shall be used to cover the portion of the partition in which the warm air pipe is located. These apply to warm air pipes in closets. The air space between pipes shall be open at the bottom, closed at the top.

A warm air pipe placed in a wooden partition should not be less than five feet horizontal distance from the furnace. A greater distance should be obtained where possible. Many building ordinances require eight feet. There is always a possibility of the furnace becoming overheated, or a break occurring in the furnace dome, thus permitting direct connection between the fire and the pipes.

A register box placed in the floor over a portable furnace shall have a space around it of not less than four inches on all sides. When the distance between joists is not sufficient to furnish this space special framing should be done to secure it. Wood work shall have a metal casing.

Fire Stopping.

No one feature of house construction will contribute more to its safety in case of fire than efficient, well-placed fire-stops. Their purpose is to delay the spread of fire and so assist in confining it to the story in which it started.

Fire-stops are principally applicable to non-fireproof buildings, though they should be used in any type of building where openings exist which would act as flues to distribute heated air or gases from a fire. The added cost of such protection is very slight, and yet its value is so little appreciated. The ordinary dwelling either has no fire-stopping at all, or else the work is

so indifferently done as to be practically worthless. Because such work does not show when the building is completed, and because its importance is usually entirely underestimated, it is common to delegate it to

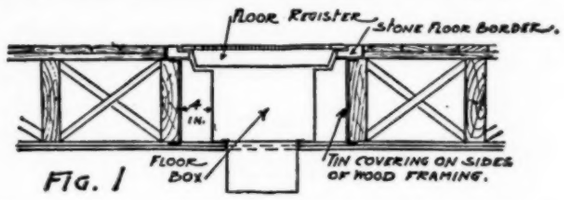


Figure 1. Method of Fire-Stopping Around Floor Register.

a boy or some careless, incompetent person. The result is that the fire-stop is so in name only; it being merely a delusive imitation, which, if called upon to fulfill its purpose, fails completely. Such work does not call for any high degree of mechanical skill, but it is absolutely necessary that it be done by an intelligent, conscientious workman, if it is to be efficient. It is urged that incombustible fire-stopping materials be used wherever possible. Their use not only lessens the chances of defective workmanship, but as they are unburnable themselves, the possibility of a fire getting by them is considerably decreased.

Where a warm-air furnace pipe passes through a floor the space between the pipe and floor construction should be filled with incombustible material supported by sheet metal or metal lath. A light porous material, such as mineral wool, is best suited for the purpose.

The space between a register box set in a floor and the casing protecting the floor construction should be

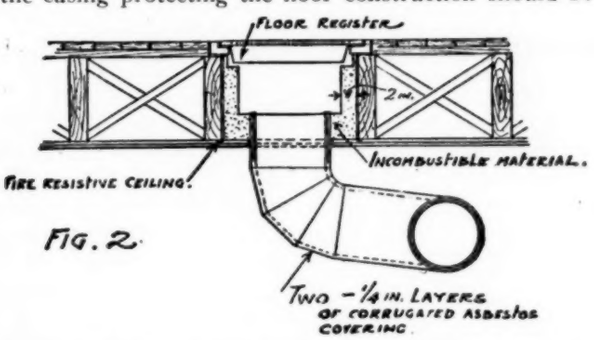


Figure 2. A more complete method of Fire-Stopping, and one well suited for existing buildings.

filled with similar incombustible material. This should include the space around that portion of the warm-air pipe attached to the register box down to the bottom of the joists in wooden floor construction, and a layer of sheet metal should surround the pipe and be securely nailed to the underside of the joists to support the fire-stopping. When a register box is fire-stopped in this manner, the space between the box and the casings may be reduced to two inches.

This fire-stopping is important, but seldom done. Any such space should be fire-stopped irrespective of floor construction. The protection of wood work around a register will safeguard the wood from the heat of the pipe itself, but the open space provided around the pipe and register box forms an easy entrance for fire occurring in the lower story to gain access to the story which the register serves. The warm-air pipe and its connection will get red hot and communicate fire to combustibles surrounding the register face, such as parquet floors, carpets, rugs, etc. If the register box has soldered joints, these will open and form a passage way for the flames. It is useless to close stairways and protect ceilings unless all other openings are adequately closed.

The greatest hazard is in the cellar or basement, where the furnace is located. There is an additional danger from the warm-air pipes, which, if not protected, in case of fire, become intensely hot and burn the dust accumulating in such devices, thus making a flash fire.

It is common practice to simply cover warm-air pipes with a sheet of asbestos paper pasted to the pipe. This may have a little value as a heat insulator, but has practically none as a fire retardant. The warm-air pipes should be fully covered with cellular asbestos or its equivalent, incombustible material, at least one-half inch thick. Such covering is inexpensive and reduces coal bills by conserving the heat.

The great obstacle in securing efficient fire-stops is in getting architects and builders to realize the supreme importance of such precautions. The ordinary carpenter or builder has an inherent prejudice against doing work which does not visibly advance his contract. Ignorance of the serious annual life and property loss due to fires in combustible dwellings, he considers the possibility of such a fire too remote to worry about, and the general experience is that he will not put in proper fire-stops unless very carefully watched. Usually the owner lacks experience, and does not know what should be required.

Although it would not be practicable to fire-stop an existing house as completely as a new structure, however, it would be quite feasible to apply some of these suggestions to present-day structures in which such barriers have been omitted. These would materially lessen the fire risk.

MAJOR MYRICK SPEAKS AT CONVENTION OF NEW ENGLAND ENGINEERS.

More than five hundred members and their ladies were present at the Annual Convention of the New England Associations of Stationary Engineers and Commercial Engineers, which was held at Portland, Maine, June 27th to 30th. Expressions of welcome from the mayor of the city and the president of the Chamber of Commerce and responses by officers and past officers of the Associations featured the opening sessions.

The address by the president of the Portland Chamber of Commerce at the opening of the Mechanical Exhibition was responded to by Mayor James W. H. Myrick, treasurer of the New England Association of Commercial Engineers and member of the Committee on Public Safety of Boston. Mr. Myrick, who is ventilating engineer of the Autoforce Ventilating System of Boston, told how highly the city of Portland was held in Boston because of its exceptional shipping and railway facilities and because of the high caliber of its business men. The sessions of the Convention were given over to various addresses, reading of papers on engineering subjects and entertainment features.

SAFETY AND ECONOMY IN WARM AIR PIPE CONSTRUCTION.

Handy Warm Air Pipe and Fittings, one of which is shown in the accompanying illustration, are said to be the real fulfillment of safety and economy in warm air pipe construction. Fitting snugly and firm, and having the double wall construction, they are said to "hold the heat in and keep the cold out," which, scientifically speaking, means that the air space acts as a sort of vacuum that prevents the escape of heat from the warm air. As regards installation, the extra long single tongue is claimed to make it easy to connect every section in a jiffy: This 1⅜-inch connecting slip glides into place like a fountain pen going into its cap, and there is little danger of making a faulty connection that will cause trouble and expense later. Sizes and styles of the warm air pipe and fittings are made for every purpose, and all are illustrated and described in the new catalog which was recently issued. Copies will be sent upon request by the F. Meyer and Brother Company, 1313 South Adams Street, Peoria, Illinois.

Handy Pipe Offset.

THE PROBLEM IN COAL.

The recent conferences of coal mine operators and government officials in regard to keeping down the cost of coal and insuring an adequate supply, brings to the foreground the present situation in the fuel, which is graphically outlined as follows in "The Black Diamond":

It is possible to tell the coal situation today in about four figures.

The nation consumes 1,825,000 tons of coal per day.

It produces, at the present rate, 2,213,000 tons a day.

The consumption goes on, on the average, during 300 days a year.

The production extended, last year, over only 230 days.

To make production equal consumption this year—because consumption is going to increase about 25,000,000 tons—it is going to be necessary to work the mines at least 259 days.

These figures have to do with bituminous coal only.

The question of the minute is:

Are the mines going to be able to operate steadily for 259 days this year? If they are we will get enough coal. If they are not we will have a shortage of coal.

To get out enough coal—or to keep the mines running for 259 days—it is necessary for the people to put their storage orders in during the summer. Then it is going to be necessary for the railroads to supply cars to keep the mines running more days than they did last winter.

If we can run the mines on storage orders fifteen more days than we did last year, and if the railroads can, by supplying cars in the winter, keep the mines in operation fifteen more days than they did last year, we will have enough coal to go around. One thing is sure, however. To meet the demand this year we must run the mines 259 days. This is the whole problem in coal.

STATISTICAL ABSTRACT OF UNITED STATES FOR 1916 NOW READY.

Copies of the Statistical Abstract of the United States for the year 1916 are now available and can be secured from the Bureau of Foreign and Domestic Commerce. This book contains 773 pages and is considered the most important source of annual statistics published by the Government. The main subjects for which statistics are compiled cover the area, natural resources, population, etc., of the United States; education, agriculture, forestry and fisheries; manufactures and mines; occupations, labor and wages; internal communication and transportation; merchant marine and shipping; foreign commerce; commerce of non-contiguous United States territory; consumption estimates; prices; money, banking, and insurance; public finance and national wealth; army, navy, civil service, pensions, etc.; statistical record of the progress of the United States, and commercial, financial and monetary statistics of the principal countries of the world.

Statistics of unusual importance are those dealing with the foreign commerce of the United States, which show a rapid growth in our foreign trade from $1,547,135,194 for the year ended June 30, 1894, to $6,531,366,395 for the corresponding period in 1916, an increase unprecedented by any other country in the world. The export and import figures show merchandise imported into and exported from the United States from and to every country in the world for the year 1906 to 1916. Other foreign commerce tables show the merchandise imported and exported by articles, quantities and values for the same period. From a study of these statistics, American exporters may readily tell what countries are our best customers, what goods are most largely exported and imported, prices from year to year, and other data important in determining facts connected with the trade of the United States with the world.

Copies of the book may be obtained from the Superintendent of Documents, Washington, D. C., at 50 cents each.

PARAGRAPHS.

J. A. Askew, until recently with the Newport Boiler Company, Chicago, now represents R. J. Schwab & Sons Company, Milwaukee, in the sale of Gilt Edge Warm Air Heaters and Boilers in Milwaukee and vicinity.

The Excelsior Steel Furnace Company, Chicago, Illinois, are taking advantage of Uncle Sam's trade incursions into foreign lands. They have shipped this past week, thirteen warm air furnaces, sixty-inch size.

PRACTICAL HELPS FOR THE TINSMITH

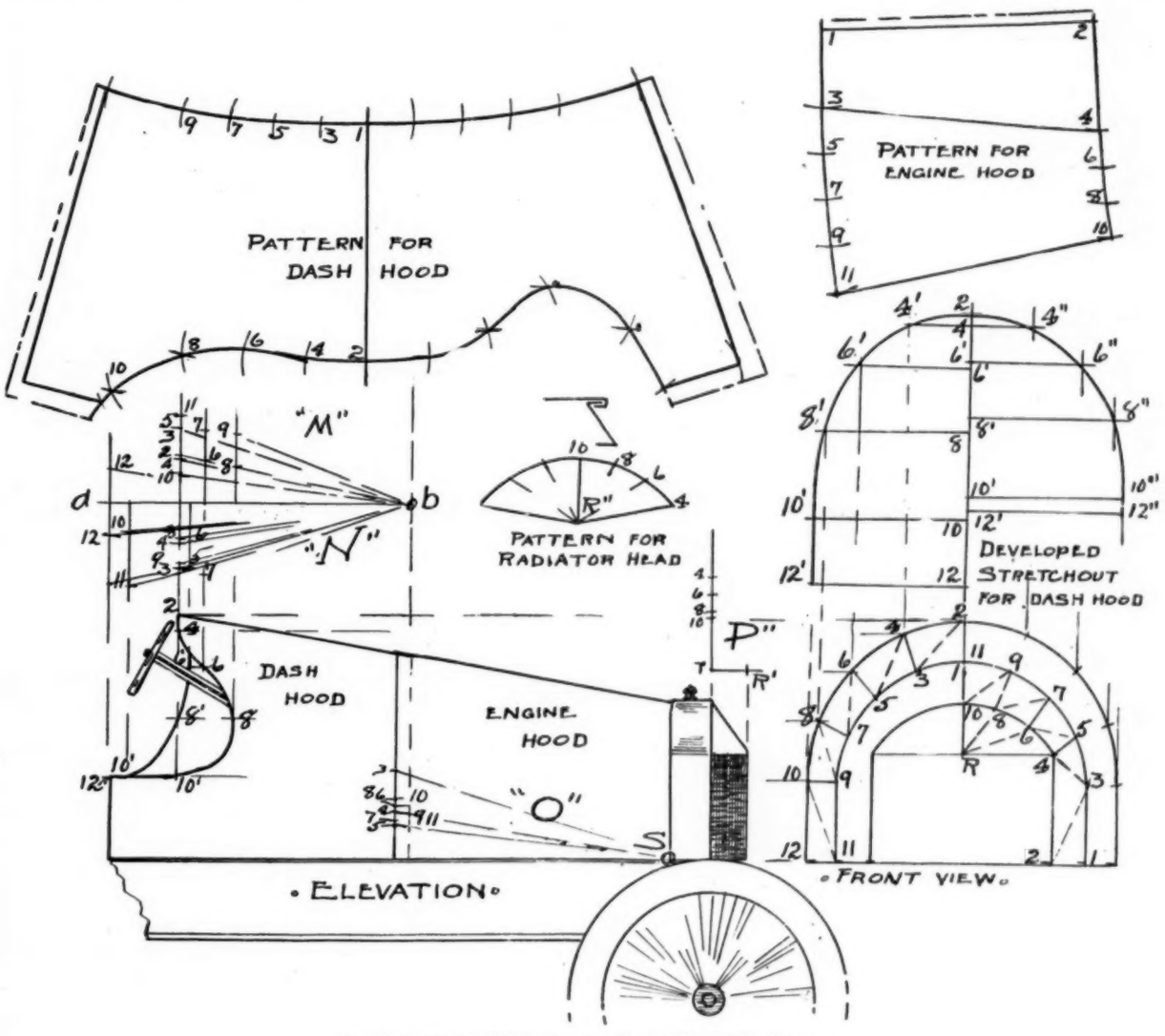
PATTERNS FOR AUTOMOBILE DASH BOARD.

BY O. W. KOTHE.

To continue our automobile with the racing body, which was described on pages 36 and 37 of our June 30th issue, we shall now consider the dash hood and the engine hood parts.

First draw the side elevation to suit your height, length, and curvature. Next, draw the front view to conform to the elevation. Divide the outline 2-10 into equal spaces; also the inner part 1-9 and draw lines connecting your points. The distances 10 and 12 and 9 and 11 are straight and do not need to be divided. Now from all points in the arc 2-12 extend over horizontal lines cutting the curve of dash hood as shown, on the one side as 2-4-8-10 and on the other side, as 2-4-6′-8′-10′.

To find the true lengths, draw a line as a-d and on the one side draw the longer lines and on the other side draw the shorter true length, as at "M" and "N". This is done by squaring up points for the lines intersecting the curve of the dash hood, and then picking your lines as 1-2, 2-3, 3-4, 4-5, etc., and setting them on corresponding lines in diagram. Then by drawing lines to the point b, you have your true lengths. Before the pattern can be developed, a true stretchout must be determined to go around the curve for our dash hood. As both sides are different, pick the spaces as 2-4-6-8-10-12 separately and set them off on a line above the front view as 2-12 on the left hand side. Then pick the spaces as 2-4-6′-8′-10′-12 from dash hood and set them off on the right side as shown. Square out lines and then from each point in the large arc of front view erect lines cutting similarly numbered lines. This gives you your stretchout.



Development of Patterns for Automobile Dash Board.

For the pattern, draw any line as 1-2 equal to the top of elevation, or b-2 in diagram "M". Strike the arc 3 equal to space 1-3 in front view. Then strike the arc 4 equal to space 2-4′ of developed section. Then pick line b-3 and with 2 as center cross arcs in point 3 Next pick line b-4 and using the new point 3 as center, cross arcs in point 4. Then strike the arc 5 equal to 3-5 of front view, and strike the arc 6 equal to 4′-6′ of developed stretchout. Cross these arcs with lines b-5 and b-6. Repeat this process until all your points are established on the one side, and then repeat the operation for the other side using the true lengths in "N".

In laying out the engine hood the same idea is applied, where the line 3-11 is divided into equal spaces and 4-10. Then you can set off your triangular line as in diagram "O". Then S-3; S-4; etc., will be your true lengths. The pattern can then be laid out by using the stretchouts from the front view. Should it be the desire to lay out the front radiator shield part, then that can also be done setting the true lengths off as at "P" and setting the pattern off as at "R". Laps for all patterns must be allowed extra.

SHEET METAL AND FURNACE SALESMEN OF DETROIT ACCEPT GRAND RAPIDS CHALLENGE.

In the June 23rd issue of AMERICAN ARTISAN AND HARDWARE RECORD there appeared a challenge issued by the sheet metal and furnace salesmen of Grand Rapids, Michigan, to the Detroit salesmen inviting them to play a baseball game at the Field Days of the Michigan Sheet Metal Contractors' Association at Jackson, Michigan, on July 20th and 21st. N. L. Pierson, Jr., of Detroit, was the recipient of this defy and was advised to make his reply to it through AMERICAN ARTISAN AND HARDWARE RECORD, which he does in these choice words:

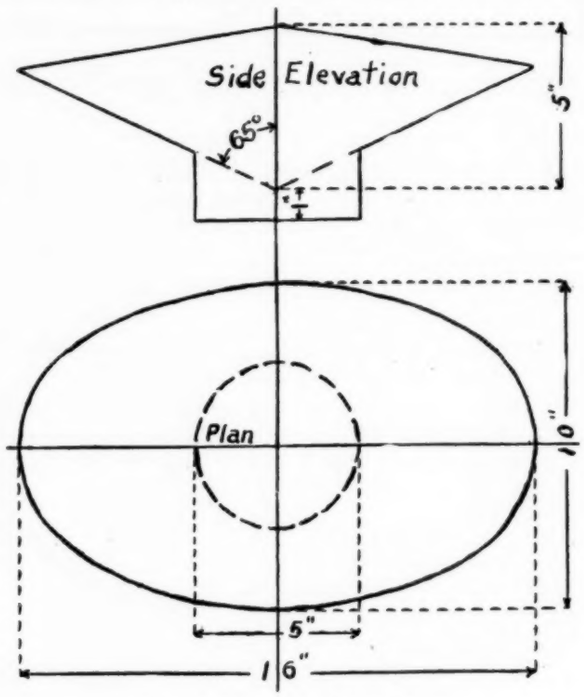
> Detroit, Michigan, not only has many automobile factories and a large population, but also a husky bunch who make up the Sheet Metal and Furnace Salesmen, and while they are inclined to be very modest regarding their ability as ball players, they at no time will allow a direct challenge to go unnoticed. It is, therefore, the writer's privilege, having been selected by the Grand Rapids bunch to be the target for various statements, challenges, boasts, etc., to accept this challenge, and those of you who will be at the field day of the Michigan Sheet Metal Contractors' Association at Jackson some time in July, will see a real ball game, as the home run habit seems to flourish with Detroit ball players.
>
> **Acceptance of Challenge.**
>
> The Sheet Metal and Furnace Salesmen of Detroit, Michigan, accept the challenge of the Sheet Metal and Furnace Salesmen of Grand Rapids, Michigan, to play a game of baseball at the Michigan Sheet Metal Contractors' field day.
>
> N. L. PIERSON, JR.

Being "strictly neutral"—as far as the baseball game is concerned—we can only hope that the best team emerges victorious from the combat.

DEVELOPMENT OF PATTERN FOR SCALE SCOOP WANTED.

To AMERICAN ARTISAN AND HARDWARE RECORD:

I would like to get the development of the pattern for a scale scoop, including the base, as shown in the



Plan and Elevation of Scale Scoop.

accompanying sketch, and will be greatly obliged if one of your readers will show how this can be done.

Yours truly,

SUBSCRIBER.

Chicago, Illinois, July 2, 1917.

WISCONSIN SHEET METAL DIRECTORS TO MEET WEDNESDAY, JULY 11.

Secretary Paul L. Biersach of the Master Sheet Metal Contractors' Association of Wisconsin has sent out a notice to the effect that a meeting of the Board of Directors of the Association will take place on Wednesday, July 11th, at 3 P. M. sharp, at the Builders' & Traders' Exchange, 456 Broadway, Milwaukee, Wisconsin. The Milwaukee local association will hold a meeting on the same day and the directors are also urged to attend this meeting as very important matters will be considered.

H. H. SIEFERT APPOINTED MANAGER OF KANSAS CITY BRANCH OF MILWAUKEE CORRUGATING COMPANY.

H. H. Siefert, who has been for many years associated with the Milwaukee Corrugating Company of Milwaukee, Wisconsin, has been appointed manager of the Kansas City branch. Mr. Siefert is well known to users of architectural sheet metal and he is particularly well adapted to fill this position, as he has been a practical member of the craft ever since childhood, having been raised at Reedsburg, Wisconsin, and having learned his trade in the tin-shop of his father, August S. Siefert, at Reedsburg, Wisconsin.

SHEET METAL PRICES OF 1866.

Prices current today in the sheet metal lines and those which were current in 1866 are aptly compared by the reproduction of the confidential price list of Cragin Brothers, former Sheet Metal jobbers of Chicago, which is reproduced on this page.

There are a great many who are engaged in the sheet metal business today who are of the opinion that the present prices are exorbitant but it will readily be seen by comparison that the year following the Civil War, prices in many instances rated much higher than they do today. Of course, at that time, different methods were used and different materials to obtain the needed supplies. Different trade names and terms were also employed but the price list reproduced herewith is an accurate indication of what the market was in those days. It must be remembered that the facilities for mining and for manufacturing sheet metals were nowhere near as efficient and productive as they are today but, on the other hand, nowhere near as much of this material was in use, therefore, the competitive demand for it was not as great.

Please consider confidential

PRICE CURRENT
OF
CRAGIN BROTHERS'
Tinners' Stock Warehouse,
230 LAKE STREET.

Chicago, 1866

Dear Sir

TIN PLATE.

1 c 10 x 14	charcoal,	11—
1 x "	"	1950
1 c 12 x 12	"	1675
1 x "	"	2025
1 c 14 x 20	"	1750
1 x "	"	21—
1 c 10 x 14	coke,	15—
1 c 14 x 20	"	1675
1 xx	charcoal,	25—
1 xxx "	"	29—
D c 100 Plate	"	18—
D x "	"	1950
D xx "	"	2350
D xxx "	"	2)54
1 c Terne	"	16—
1 x "	"	1950
1 c "	coke,	1450

PIG TIN.

Banca		
Straits	Large	37
Lamb and Flag	Small	38
Bar Tin		39

PIG LEAD.

Bar Lead		12
Sheet Lead		13
Lead Pipe	full Coil	13
		12¼

ZINC.

In Casks		15½
" Sheet		17
Slab		14

COPPER.

Copper Bottoms		55
Sheathing Copper		48
Tinning per sheet		10
Metallic Alloy Bottoms		33
" " Sheets		31

SHEET IRON.

No. 14 to 24	common,	7 3/4
" 25	"	8
" 26	"	8¼
" 27	"	8½
" 28	"	8 3/4
" 14 to 24	charcoal,	9 3/4
" 25	"	10
" 26	"	10½
" 27	"	10½
" 28	"	10 3/4
" 24	Juniata,	11 3/4
" 25	"	11
" 26	"	12¼
" 27	"	12½
" 28	"	12 3/4
" 17 to 20	Galvanized,	20
" 21 to 24	"	21
" 25 to 26	"	22
" 27	"	23
" 28	"	25
" 9 to 14	Genuine Russia,	31
Heavier	" "	
" 1 American	"	26
" 2 "	"	

In sheets, 1c higher.

WIRE.

Bright	6-6-11-7-9-12-10-11-1
Annealed	Same
Coppered	
Tinned	
Pipe	

ANTIMONY.

BABBIT METAL.

SOLDER.

Fine	
Coarse	

Sheet Metal Price List of 1866.

Going down the list we note I C tin plate, 14x20, marked $17.50, whereas the latest quotation from Chicago warehouses on it is $15.10, and this present price is the result of several recent advances which were quite sharp. I X, 14x20, was quoted at $20.25 in 1866, while today's mark is about $17.05, or more than three dollars lower.

On the other hand, the 1866 price on bar tin, 39 cents, is considerably under the present warehouse quotation, which is approximately 71 cents.

Pig lead sold then at 12 and bar at 13 cents, which measure up about equally with the present prices of 12½ and 13 cents. Sheet lead was then quoted at 13 cents which also practically equals the quotation of today. Lead pipe in full coils could be secured for 12¼ cents, while today it is quite difficult to get it at 14¼ cents.

Zinc scores one tally for 1866 and one for 1917. In the year following the close of the Civil War, zinc in slabs was quoted at 14 cents; today the price is about 10½ cents or 3½ cents lower. Sheet zinc sold then at 17 cents and today's quotation is five to six cents higher.

This price list has been furnished AMERICAN ARTISAN AND HARDWARE RECORD through the courtesy of A. W. Crotsly, manager of the Chicago office of Whitaker-Glessner Company, Wheeling, West Virginia.

A Hundred Words of good advertising text, printed in a hundred good advertising mediums, are worth more to sway the people in a given direction than a hundred times ten thousand words uttered by the most eloquent speakers addressing great audiences.

TIN PLATE MANUFACTURERS ASSURED SUPPLIES OF PALM OIL.

A meeting attended by representatives of the tin plate makers, soap makers and palm oil importers was held recently at the Bureau of Foreign and Domestic Commerce in Washington to arrange for an ample supply of palm oil for American industries using the commodity.

A committee will be formed at once and the palm oil will be shipped direct from the west coast of Africa to the United States, instead of first going to England. In return for permitting exportation of oil, Great Britain is to receive its equivalent in glycerine content, which is 6 percent.

AMERICAN ARTISAN EAGERLY LOOKED FOR.

To American Artisan and Hardware Record:

We receive several very good trade papers weekly, but none of them is looked for more eagerly than American Artisan and Hardware Record, especially the tinshop department.

Very truly yours,

A. J. Maas.

Blue Earth, Minnesota, July 3, 1917.

TIN NOT AMONG OUR MINERAL PRODUCTS.

Despite the fact that we are the largest consumers of tin plate in the world and use immense quantities of tin for other purposes, this metal and nickel are about the only two important metals that have not been found in paying quantities among our mineral resources. Tin ore in small quantities has been found in several places in the United States, but most of what we use comes from Cornwall in England, Banka in the East Indies and Malacca in southern Asia.

Tin is a metal that has played an important part in the history of the world. Used with copper to make bronze, it was doubtless one of the first metals that man converted to his use. Weapons, tools and utensils made of bronze were used during a long period before iron and steel came into use. The United States now uses in the manufacture of tin cans as much tin plate as all other countries together use for all purposes.

There is no substitute for tin, and price has little effect on consumption, which is not true of other metals. If tin cost fifteen cents a pound, we should perhaps put a thicker coating on our plates and make better solder and Babbitt metal; but if it were a dollar a pound, we should still have to use it for nearly every one of the purposes for which it is now employed.

The Milwaukee Corrugating Company, Milwaukee, Wisconsin, are building an extension to their premises at Milwaukee, 125x241 feet, which they will use for the manufacture of their metal lath, cornices and for their cupola and ventilating systems. When this large addition is finished, there are other extensions in contemplation.

OUR QUEST FOR HAPPINESS.

It is undeniable that the great quest of humanity is happiness. But was the world created to be happy? How many are truly happy? I've studied people in all classes and conditions, and everywhere I have found, when you get below the surface, that it is mostly the insincere individual who says, "I am happy." Nearly everybody wants something he hasn't got, and as things are constructed, what he wants is money—more money than he has in his pocket.

But after all, money can buy only a few things. Why should any one envy the captains of industry? Their lives are made up of those vast, incessant worries from which the average individual is happily spared. Worry, worry, that is the evil of life.

What do I consider the nearest approximation to happiness of which the present human nature is capable? Why, living on a farm which is one's own, far from the hectic, artificial conditions of the city—a farm where one gets directly from one's own soil what one needs to sustain life, with a garden in front and a healthy, normal family to contribute those small domestic joys which relieve a man from business strain.—Thomas A. Edison.

NOTES AND QUERIES.

Steel Stack for Inside of Flue.

From H. A. Mauck, Tonica, Illinois.

Kindly advise where I can obtain a steel stack that fits on the inside of a flue and to which the smoke pipe is attached when the flue is used for ventilating purposes in a school building.

Ans.—The Haines Company, 1929 West Lake street; Mellish-Hayward Company, 213 West Austin avenue, and Monarch Ventilating Company, 1414 North Halsted street; all of Chicago, Illinois.

Brake Knife.

From D. C. Noonan, 211 Cave Springs Avenue, El Dorado, Kansas.

Will you please tell me who makes the brake knife which is advertised in American Artisan and Hardware Record? You fasten the sheet you want to cut in the brake, then roll the little machine along the apron of the brake and it cuts the sheet in two.

Ans.—C. DeWitt Wagner, Third avenue and Fourth street, Cedar Rapids, Iowa.

One Piece Corrugated Stove Pipe Elbows.

From the Niagara Stamping Company, 158 Ellicott Street, Buffalo, New York.

Please tell us who makes one-piece corrugated stove pipe elbows.

Ans.—Ferdinand Dieckmann Company, Post Office Station B, Cincinnati, Ohio; Excelsior Steel Furnace Company, 118 South Clinton street, Chicago; Hemp and Company, St. Louis, Missouri; Milwaukee Corrugating Company, Milwaukee, Wisconsin; Republic Metalware Company, Buffalo, New York, and Whitaker-Glessner Company, 2547 Arthington street, Chicago.

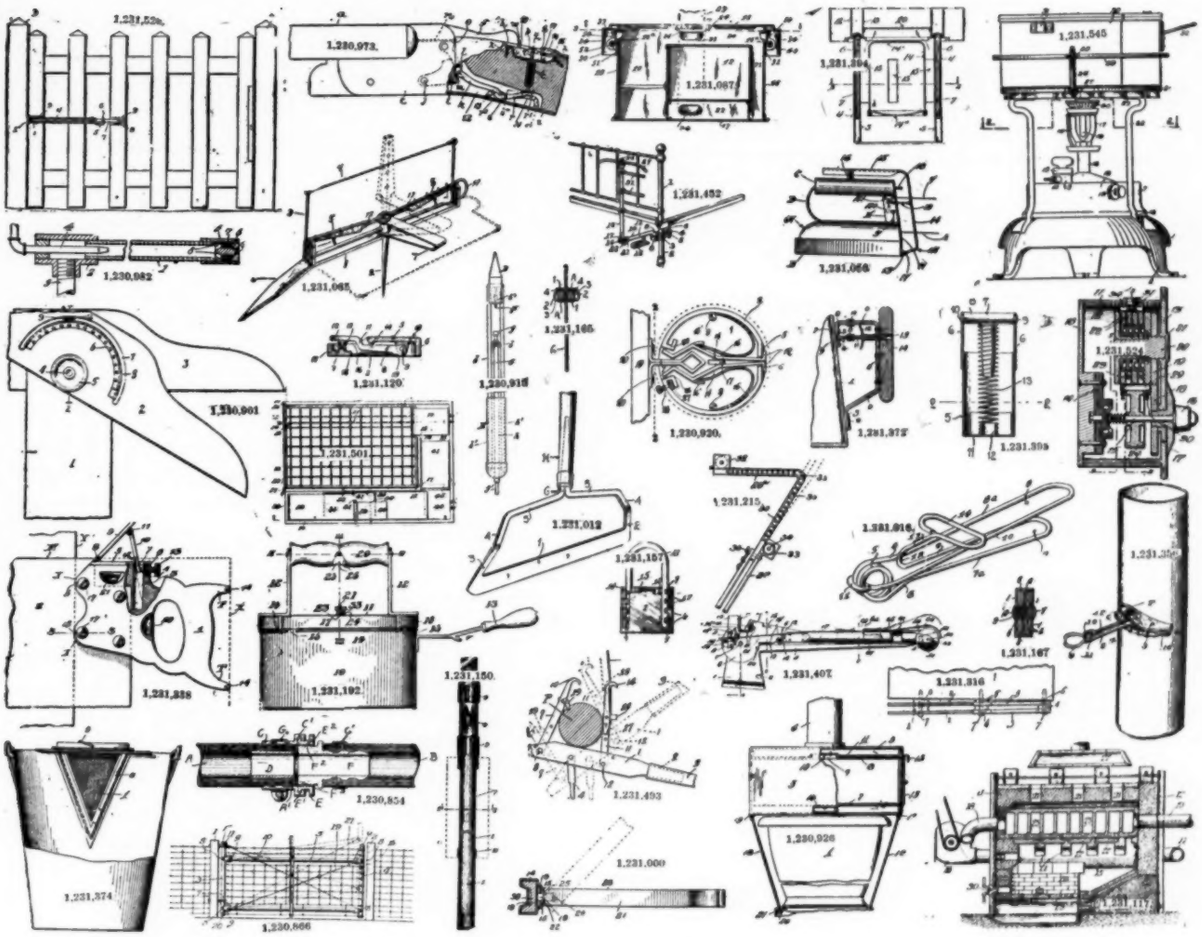
Elbow Cutting Machine.

From Wolf's Furnace Company, Fort Wayne, Indiana.

Please tell us who makes an elbow cutting machine.

Ans.—Bertsch and Company, Cambridge City, Indiana; Niagara Machine and Tool Works, 683 Northland Avenue, Buffalo, New York, and Peck, Stow and Wilcox Company, 2176 West 3d Street, Cleveland, Ohio.

NEW PATENTS.



1,230,854. Hose-Coupling. Erich F. J. Breuer, Decatur, Ill. Filed Aug. 31, 1916.

1,230,866. Gate Attachment. Joseph B. Clay, Cedar Falls, Iowa. Filed Apr. 1, 1916.

1,230,901. Adjustable T-Square. Stephen Chase Houghton, Pacific Grove, Cal. Filed Nov. 6, 1916.

1,230,915. Self-Heating Soldering-Iron. Napoleon Martel and Joseph Ervin Rascoe, Plattsburg, N. Y., assignors of one-third to Solomon S. Kempner, Plattsburg, N. Y. Filed July 3, 1916.

1,230,920. Lock for Screens and the Like. Harrie Thompson Nowotny, St. Louis, Mo. Filed Nov. 1, 1916.

1,230,926. Oven Attachment. Howard A. Rogers, Atlanta, Ga., assignor of one-half to Samuel Shields, Atlanta, Ga. Filed Apr. 6, 1916.

1,230,968. Fish-Bait. Ford R. Wilbur and Horace E. Ball, Paw Paw, Mich. Filed Nov. 4, 1916.

1,230,973. Firing Mechanism for Firearms. Alvin A. Yeaton, Hillsboro, N. H. Filed Apr. 29, 1916.

1,230,982. Oil-Burner. Guy M. Barber, Los Angeles, Cal., assignor of one-third to Ernest J. Lloyd and one-third to William McDonald Wootten, Los Angeles, Cal. Filed Oct. 9, 1916.

1,231,000. Adjustable Bracket. John H. Crist and John C. Schilken, Pittsburgh, Pa. Filed May 1, 1916.

1,231,012. Push-Hoe. Edwin L. Glover, Jackson, Miss. Filed Sept. 25, 1916.

1,231,016. Clothes-Pin. Leamon Hamm, Bangor. Me. Filed Aug. 24, 1915.

1,231,056. Electric Iron. Charles S. Palmer and Dean Palmer, Saranac Lake, N. Y. Filed Dec. 18, 1916.

1,231,065. Steel Game-Trap. Chester Peter Pues, Navarino, Wis. Filed Apr. 3, 1916.

1,231,087. Combination Cooking-Range. William F. Spieth, Cleveland, Ohio. Filed Apr. 13, 1916.

1,231,117. Air-Heater. William N. Best, New York, N. Y. Filed May 3, 1915.

1,231,120. Attachment for T-Squares. Ernest I. Brasseur, Chicago, Ill., assignor to A. B. Dick Company, Chicago, Ill. Filed Nov. 4, 1915.

1,231,150. Fishing-Rod. Harry G. Gere, Hackensack, N. J. Filed Apr. 19, 1917.

1,231,157. Permutation-Padlock. R. J. Herendeen, What Cheer, Iowa. Filed Oct. 5, 1914.

1,231,165. Fishing-Fly Holder. James William Jay, Philadelphia, Pa. Filed Sept. 18, 1916.

1,231,167. Pliers. Aaron J. Jones, Ancon, Canal Zone. Filed Sept. 30, 1916.

1,231,192. Macaroni-Cooker. Joseph Pomianowski, Chicago, Ill. Filed Dec. 14, 1916.

1,231,215. Razor. Harrison D. Sterrick, Pittsburgh, Pa. Filed June 24, 1912.

1,231,316. Tool-Rack. Percy Stanley Watts, Seattle, Wash. Filed May 24, 1916.

1,231,338. Handsaw. Louis Desrochers, Fall River, Mass., assignor of one-half to Samuel F. Stewart, North Tiverton, R. I. Filed Jan. 26, 1917.

1,231,356. Straining Device for Eaves-Spoutings. Arnold E. Houge, Badger, Iowa. Filed Apr. 28, 1917.

1,231,372. Detachable Coffee-Pot Handle. Ira Jones, Pottstown, Pa. Filed Dec. 8, 1915.

1,231,374. Milk-Strainer. Rudolph Jovanovitz and Anthony Lambert, New England, N. D. Filed Apr. 6, 1917.

1,231,394. Oil-Stove Burner. Walter C. Lindemann, Milwaukee, Wis., assignor to A. J. Lindemann & Hoverson Co., Milwaukee, Wis. Filed Sept. 21, 1914.

1,231,395. Vegetable or Fruit Cutter. Jacob S. Lockerby, Hoquiam, Wash. Filed July 8, 1916.

1,231,407. Tool. William L. Milliorn, El Paso, Tex. Filed Jan. 5, 1917.

1,231,452. Clothes-Hanger. Ora M. Sword, St. Maries, Idaho. Filed Jan. 8, 1915.

1,231,493. Wire-Stretcher. William A. Clanton and Robert K. Cox, Wood, Va. Filed Nov. 8, 1916.

1,231,501. Mouse-Trap. Emil Czeczel, Chicago, Ill. Filed Mar. 26, 1917.

1,231,524. Permutation-Lock. Samuel P. Hatchett and George L. Dillard, Mogollon, N. Mex. Filed June 14, 1916.

1,231,526. Gate or Door Closing Device. Royal A. Hawley, Graham, Tex., assignor of one-third to Agustus B. Eddleman and one-third to Walter B. Douglas, Graham, Tex. Filed Feb. 28, 1917.

1,231,545. Combined Stove and Article-Support. David Davis, New York, N. Y. Filed July 10, 1915, Serial No. 39,115. Renewed May 16, 1917.

WEEKLY REPORT OF TRADE AND THE MARKETS

UNCERTAINTY IN IRON AND STEEL MARKET BECOMES MORE PRONOUNCED.

The iron and steel industry continues to await government action, and the entire trade is focusing its attention on Washington in hope of some guidance in this unprecedented situation of market extravagances and war complications. The week past has intensified rather than lessened the uncertainty into which the industry has been plunged, and for the first time in the history of the industry there is no quotable market. Price conditions may be described as chaotic and there is no dependable or reliable basis upon which to make quotations. No immediate prospect of improvement is in sight, and some even doubt that the settlement of the question of prices for the government will have an immediate influence towards stabilizing the market.

Under these conditions, the iron and steel industry continues to drift, and both consumers and producers see little to be gained by continuing the headlong buying and selling of the recent past. The trade is recognizing the futility of piling up forward obligations, the shipment of which will depend entirely upon the extent of government requirements.

Several advances in nominal quotations were announced during the week, but they served more to further confuse an already involved situation than to establish a basis for prices. These quotations virtually mean nothing, and it is believed that some producers are protecting old customers at prices considerably below the market, although some smaller producers are being paid very high premiums for delivery contracts. The premium business has become such a factor in the market that many smaller mills are refusing to accept orders for forward delivery, preferring to keep their books clear so as to be able to take advantage of the rising market.

The pig iron market is making a more rational showing. Sales have fallen somewhat, but this has been due rather to the lack of free supply than to the disinclination to buy, because many inquiries are still going unsatisfied. Makers of pig iron at the general meeting in New York last week made preliminary arrangements to furnish such requirements as the government has been inquiring for, or may put out later. Buyers are pursuing various policies, and some with uncovered requirements to the middle of next year are more disposed to hold off, especially in view of the talk of price-fixing by the government, both for itself and the outside trade. A Chicago melter, on the other hand, has closed for 5,000 tons for the last half of 1918 at $52.00, Chicago, which represents the first definite sale for that period. Prices are more stationary, with $55.00 furnace a common figure for various Northern districts in Basic, Malleable and Foundry irons.

STEEL.

There is a strong inquiry for soft steel bars in the Chicago district, but the market is dull because of the refusal of makers to sell. One small lot, which was furnished by an Eastern independent mill, sold last week at 4.69 cents. The lack of steel plates for sale in the open market has served to maintain the current prices on this material. Mills are reserving their capacities for the production of plates for the shipbuilding program, and have nothing to offer except to the government. The 10-cent quotation still prevails. The new business in structurals consists almost entirely of material for ships, and fabricators are seeking no additional contracts. The quotation of 6.19 cents remains.

COPPER.

An important development of the past week in the metal market was the announcement that the government had arranged through the Council of National Defense for one month's requirements of copper approximating 30,000 tons at 25 cents a pound. The effect of this announcement has thus far been negligible, because the trade has been unable to receive official confirmation as to whether the price of 25 cents is conditional upon the Federal Trade Commission's investigation of production costs. The market continues quiet, and in view of the labor troubles at the mines, producers are holding quotations firm. In the absence of actual sales, prices are entirely nominal, and are about as follows, on a basis of cash New York: Spot, 32½ cents; July, 31½ to 31¾ cents; August, 31¼ to 31½ cents; September, 30¼ to 30½ cents, and fourth quarter, 29 to 29¼ cents. Prompt Prime Lake is quoted nominally at 32 to 32½ cents and Prompt Casting Copper is quoted at 31½ to 32 cents.

LEAD.

Following the recent announcement of the arrangement of the Government's lead needs until the first of August at 8 cents a pound, the larger producers have experienced an active demand and some of them are practically sold up for July. Quotations are about as follows: Prompt and July, 11 to 11½ cents St. Louis; August and September, 11¼ cents.

SOLDER.

Chicago warehouse prices on solder have dropped ½ cent a pound during the past week. Quotations are now as follows: XXX Guaranteed, ½ & ½, 39½ cents; Commercial, ½ & ½, 37½ cents; Number 1 Plumbers', 35½ cents.

TIN.

Statistics for June show a decrease in tin stocks, but this has had little influence on the New York market, which has been almost at a standstill during the past week. During June, prices on Spot Straits fluctuated between 60½ and 64 cents and the present price is about 62¼ to 62½ cents. The tin committee appointed by the American Iron and Steel Institute has as yet made no announcement with regard to distribution arrangements. Chicago warehouses have reduced their prices on pig tin 1 cent a pound. Pig tin is now quoted at 69 cents and bar tin at 70 cents.

SPELTER.

The spelter market has seen another great feature of the week in a letter sent out by the Zinc Committee of the Council of National Defense asking spelter producers to participate in supplying the requirements of the army ordnance department to the extent of 23½ million pounds of Grade A for delivery over ten months at 13½ cents. Although this represents an advance of about 2 cents over the previous allotment, the sentiment in the spelter market has not responded. Prime Western has declined perceptibly during the week, sales having been made at 9 cents, St. Louis, while 8⅞ cents is bid. Quotations are about as follows: Prompt and July, 9 cents; August and September, 9⅛ cents. Brass special for prompt delivery is quoted at about 9¾ to 10 cents, St. Louis. Government agents and sheet zinc manufacturers have reached an agreement by which sheet zinc will be furnished the government at the net price of 16 cents per pound. The government is therefore receiving a concession of about 1½ cents and the manufacturers at the same time are getting a good price, because brass special is quoted at about 10 cents per pound, and a spread of 6 cents per pound between sheet zinc and brass special shows a handsome profit for the rolling operation.

SHEETS.

Consumers in the Pittsburgh district are paying premium prices for steel sheets for shipment in the Fall, realizing that what surplus tonnage ordinarily finds its way in the open market is being absorbed by the government. At present, the government is not taking large tonnages from any single mill, and it is not believed that the sheet committee will call upon mill managers for more than 10 percent of their output this year. Eventually 25 to 40 percent of the sheet mill capacity may be devoted to the manufacture of munitions. Quotations show no change.

TIN PLATE.

Tin plate for shipment this year has become so scarce that it is regarded as a luxury. Practically the entire capacity of mills is being devoted to the manufacture of material for packing foodstuffs, and it is not unlikely that American mills will be called upon to assist manufacturers in Great Britain whose output has been materially reduced by the war. Warehouses in Chicago have advanced their prices on coke plates from $1.35 to $1.50 per box. Cokes, 180 pounds, 20x28, are now quoted at $27.30; cokes, 214 pounds, IC, 21x28, at $28.00; and cokes, 270 pounds, IX, 20x28, at $30.50.

WIRE PRODUCTS.

Much confusion has been caused in the wire products market during the past week because of the varying prices quoted by district factories, but the leading interest still adheres to its quotations.

OLD METALS.

The relative inactivity which characterized last week's market in iron and steel scrap in Chicago has been followed by pronounced declines in prices. Reduced quotations are reported on almost all grades, ranging from $1.00 to $5.00 on lighter grades and about $3.00 on heavier grades. The demands of steel makers have lessened not only because of the extraordinarily high prices, but also because operations will be somewhat curtailed during this month while repairs are being made. Wholesale dealers' quotations, which may be considered nominal, are as follows: Old steel axles, $50.00 to $51.00; old iron axles, $50.00 to $51.00; steel springs, $38.00 to $39.00; Number 1 Wrought iron, $43.00 to $45.00; Number 1 cast iron, $29.00 to $30.00, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 23 to 23½ cents; light brass, 13 to 13½ cents; lead, 8¾ to 9¼ cents; zinc, 6 to 6½ cents; cast aluminum 32½ to 33½ cents.

PIG IRON.

The noteworthy event in the Chicago district is the placing of an order by a consumer for 5,000 tons of Number 2 Foundry iron for the last half of 1918 at $52.00, Chicago. This is the first sale to be made for last half of 1918 delivery, although several inquiries had been received for that period. The sales of Northern pig iron for the last of this year and the first half of next have practically ceased, and only occasional sales of small tonnages are being sold. The quotation of $55.00, Chicago, for Foundry, Basic and Malleable grades remains firm and demand continues strong. Lake Superior Charcoal iron is not in as great demand as formerly, but the price remains at $59.50 to $62.00, Chicago. Quotations on Southern iron have increased slightly and prices for the last half of this year now vary from $46.00 to $50.00, Birmingham. For the first half of 1918, quotations for Southern iron range from $44.00 to $48.00. The furnaces in this district have very little iron for contract until July 1, 1918, and are virtually sold full for the next twelve months.

Rogers, Brown & Company Market Report, Cincinnati, Ohio, July 7, 1917:

Although pig iron has registered some heavy advances within the past few weeks, it has not been marked up proportionately as high as some finished iron and steel commodities. Then, too, the advances have been more gradual in comparison with some sudden changes in quotations that have been made lately on sheets, bars, etc. For instance, Number 10 blue annealed sheets were advanced last week $10.00 a net ton within 24 hours, bar iron was also marked up ½ cent a pound, and a list of such radical advances could be extended to include many finished articles.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS.

PIG IRON.

Basic	$55 00
Northern Fdy., No. 2	55 00
Southern Fdy., No. 2	$50 00- 54 00
Lake Sup. Charcoal	59 50- 62 00
Malleable	55 00

FIRST QUALITY BRIGHT TIN PLATES.

		Per Box
IC	14x20	$15 10
IX	14x20	17 05
IXX	14x20	19 00
IXXX	14x20	20 45
IXXXX	14x20	21 90
IC	20x28	30 20
IX	20x28	34 10
IXX	20x28	38 00
IXXX	20x28	40 90
IXXXX	20x28	43 80

COKE PLATES.

Cokes, 180 lbs	20x28	$27 30
Cokes, 200 lbs	20x28	27 50
Cokes, 214 lbs	IC 20x28	28 00
Cokes, 270 lbs	IX 20x28	30 50

BLUE ANNEALED SHEETS.

No. 10 per 100 lbs.	$9 30
No. 12 per 100 lbs.	9 35
No. 14 per 100 lbs.	9 40
No. 16 per 100 lbs.	9 50

ONE PASS COLD ROLLED BLACK

No. 18-20 per 100 lbs.	$9 30
No. 22-24 per 100 lbs.	9 35
No. 26 per 100 lbs.	9 40
No. 27 per 100 lbs.	9 45
No. 28 per 100 lbs.	9 50

GALVANIZED

No. 16 per 100 lbs.	$10 75
No. 18-20 per 100 lbs.	10 9
No. 22-24 per 100 lbs.	11 05
No. 26 per 100 lbs.	11 20
No. 27 per 100 lbs.	11 35
No. 28 per 100 lbs.	11 50
No. 30 per 100 lbs.	12 00

POLISHED SHEET STEEL.

No. 24 per 100 lbs.	$9 80
No. 26 per 100 lbs.	9 85
No. 27 per 100 lbs.	9 90
No. 28 per 100 lbs.	10 00

SMOOTH SHEET STEEL.

		Per 100 lbs.
Wood's Smooth	No. 20	$9 50
" "	No 22-24	9 55
" "	No 25-26	9 60
" "	No. 27	9 65
" "	No. 28	9 75

PATENT PLANISHED SHEET IRON.

Patent Planished Sheet Iron, 100 lbs., base No. 28 ..... $13 00

SOLDER.

XXX Guaranteed ½ & ½ .. per lb.	39½c
Commercial ½ & ½ ..... "	37½
No. 1 Plumbers ..... "	35½c

SPELTER

In Slabs 10½c

SHEET ZINC.

Cask lots	$22 00
Less than Cask lots	$22 50 to $23 00

COPPER.

Copper sheet, base 39c

LEAD.

American Pig	$12 50
Bar	13 00
National (White) brands (in less than 100 lb. lots), per lb.	11c

Sheet.

Full coils ..... per 100 lbs.	$13 25
Cut coils ..... per 100 lbs.	13 50

ALUMINUM

Carload lots.

No. 1 Pure Ingot ..... per lb.	$0 60
Sheets ..... "	75

TIN.

Pig tin ..... per lb.	69c
Bar tin ..... "	70c

HARDWARE.

ADZES.

Carpenters'.

Plumbs	20%

Coopers'.

Barton's	15%
White's	15%

Railroad.

Plumbs	35%

AMMUNITION.

Caps, Percussion—per 1,000.

P. L., Waterproof, 1-10s	33⅓%
G. D	33⅓%
Musket	33⅓%

Shells, Loaded—

Loaded with Black Powder	33⅓%
Loaded with Smokeless Powder medium grades	33⅓%
Loaded with Smokeless Powder, high grade	33⅓%

Winchester:

Smokeless Repeater Grade	32%
Smokeless Leader Grade	32%
Black Powder	32%

U. M. C.

Nitro Club	32%
Arrow	32%
New Club	32%

Gun Wads—per 1000

Winchester 7-8 gauge	$2 25
" 9-10 gauge	2 94
" 11-28 gauge	1 63

Powder.		Each
DuPont's Sporting, kegs		$10 25
" "	¼ kegs	5 40
" "	½ kegs	2 85
DuPont's Canisters, 1-lb		56
" "	½-lb	32
" Smokeless drums		43 50
" "	½-kegs	11 25
" "	10-can drum	9 00
" "	¼-kegs	5 75
" "	canisters	1 00
L. & R. Orange, Extra Sporting kegs		$10 25
L. & R. Orange, Extra Sporting ½-kegs		5 40
L. & R. Orange, Extra Sporting ¼-keg		2 85
L. & R. Orange, Extra Sporting 1 lb. canisters		56
L. & R. Orange, Extra Sporting ½-lb. canisters		32
L. & R. Orange, Extra Sporting ¼-lb. canisters		22
Hercules "E. C." and "Infallible" 50 can drums		$43 50
Hercules "E. C." kegs		22 00
Hercules "E. C." ½-kegs		11 25
Hercules "Infallible," 25 can drums		22 00
Hercules "Infallible," 10 can drums		9 00
Hercules "E.C." ½-kegs		5 75
Hercules "E.C." and "Infallible" canisters		1 00
Hercules W. A. .30 Cal. Rifle, canisters		$1 25
Hercules Lightning Rifle, canisters		1 25
Hercules Sharpshooter Rifle, canisters		1 25
Hercules Unique Rifle, canisters		1 50
Hercules Bullseye Revolver, canisters		1 00

ANVILS.

Trenton, 70 to 80 lbs	9½c per lb.
Trenton, 81 to 150 lbs	9½c per lb.

ASBESTOS.

Board and Paper ..... 7c per lb.

AUGLRS.

Boring Machine	60-10%
Irwin's	33⅓%
Carpenter's Nut	60-10%

Hollow.

Bonney's—list $30.00	75 & 5%
Stearns, No. 3	36 00

Post Hole.

Digwell, 8-inch ..... per doz.	12 50
Iwan's Post Hole and Well	40%
Vaughan's, 4 to 9-in. .. per doz.	8 00

Ship.

Ford's, with or without screw	25%
Snell's " " "	25%

AWLS.

Brad.

No. 3 Handled ..... per doz.	$0 45
No. 1050 Handled	" 95
Shouldered, assorted 1 to 4, ... per gro.	3 60
Patent asst'd, 1 to 4	" 75

Harness.

Common	" 95
Patent	" 90

Peg.

Shouldered	" 1 50
Patent	" 65

Scratch.

No. 1 handled ..... per doz.	7 65
No. IS. socket han'ld.	" 1 25
No. 7 Stanley	" 1 95

AXES.

Boy's Handled.

Lippincott, 3 lb ..... per doz.	$6 00
Marshall Falls City	" 5 00
Niagara	" 9 00

Broad.

Plumbs, West, Pat	List
" Can. Pat	List
" Firemen's (handled), ... per doz.	$19 00
Plumbs, Miners' (handled)	" 9 00

Single Bitted (handled).

Warren Silver Steel	$14 00
Warren Blue Finished	13 00
Rough Rider	12 50
Perfect Premier, Forest Clipper	12 25

Single Bitted (without handles).

Warren Silver Steel	$12 00
Warren Blue Finished	11 50
Rough Rider	11 00

Double Bitted (without handles).

Blood's Champion, 3½ to 4½ lb. ..... per doz.	14 75
Flint Edge	" 11 50
Perfect Premier	" 12 50

The above prices on axes of 3 to 4 lbs. are the base prices.
3½ to 4½ lbs. advance 25c.
4 to 5 lbs. advance 50c.
4½ to 5½ lbs. advance 75c.

BAGS, PAPER NAIL.

Pounds	10	16	20	25
Per 1,000	$2 50	3 75	4 50	5 00

BALANCES, SPRING.

Pelouze 20%

BARS, CROW.

Pinch or Wedge Point, per cwt .. $4 00

BASKETS.

Clothes.

Small Willow	per doz.	10 00
Medium "	"	11 00
Large "	"	13 00

Galvanized Iron.	½ bu.	1 bu.	1½ bu.
Per doz	$5 50	8 00	11 00

BEATERS.

Carpet.	Per doz.
No. 13 Tinned Spring Wire	$ 0 90
No. 11 Spring Wire coppered	1 30
No. 10 Preston	90

Egg.		Per doz.
No. 50	Imp. Dover	$ 1 00
No. 102	" " tinned	1 25
No. 150	" " hotel	2 00
No. 10	Heavy hotel tinned	2 10
No. 13	" " "	3 30
No. 15	" " "	3 60
No. 18	" " "	4 50

BELLOWS.

Blacksmiths'	65%

Hand.

8-inch ..... per doz.	7 50
10-inch ..... "	9 40

Moulders'.

12-inch ..... "	12 60

BELLS.

Call.

3-inch Nickeled Rotary Bell, Bronzed base ..... per doz.	$5 00

Cow.

High Grade	60%
Kentucky	65&10%

Door.	Per doz.
New Departure Automatic Rotary	$6 50
3 -in. Old Copper Bell	4 00
3 -in. Old Copper Bell, fancy	6 00
3 -in. Nickeled Steel Bell	4 50
3½-in. Nickeled Steel Bell	5 00

Hand.

Hand Bells, polished	25%
White Metal	25%
Nickel Plated	20%
Swiss	40%
Silver Chime	25%

Miscellaneous.

Church and School, steel alloy	50%

Farm, lbs	40	50	75	100
Each	$2 25	3 00	4 00	5 50

BEVELS, TEE

Stanley's, rosewood handle, new list	Nets
Stanley's iron handle	Nets

BINDING, OILCLOTH.

Zinc	70%
Brass	60&5%
Brass, plated	75%

BITS.

Auger.

Extra Double Spur	60&10%
Ford's Car and Machine	30%
Ford's Ship	30%
Irwin	35%
Russell Jenning's	30%
Clark's Expansive	60%
Steer's " Small list, $22 00	25%
" " Large " $26 00	25%
Irwin Car	35&10%
Ford's Ship Auger pattern Car	33⅓%

Center 15%

Countersink.

No. 18	Wheeler's	per doz.	$1 80
No. 20	"	"	2 40
American	Snailhead	"	1 10
"	Rose "	"	1 30
"	Flat	"	1 20
Mahew's	Flat	"	90
"	Snail	"	1 40

Dowell.

Russell Jennings	30%

Gimlet.

Standard Double Cut		40%
German Pattern	per doz.	$0 75
German	"	80
Gouge	"	80
Spoon	"	15%
Countersink	"	1 30

Reamer.

Jenning's Square	"	2 50
Standard Square	"	2 00
American Octagon	"	1 75

Screw Driver.

No. 7 Common	"	75
No. 1 Triumph	"	1 25